

*This Official Statement has been prepared to provide information on the 2016 Series A Bonds. Selected information presented on this cover page is for quick reference only for the convenience of the users. Investors must read the entire Official Statement to obtain information essential to making an informed investment decision. Unless otherwise indicated, capitalized terms used on this cover page have the meanings given in this Official Statement.*

**NEW ISSUE – COMPETITIVE**

**BOOK-ENTRY ONLY**

**City of Portland, Oregon**  
**\$168,525,000**  
**First Lien Water System Revenue and Refunding Bonds**  
**2016 Series A**  
**BASE CUSIP: 736754**

**DATED:** Date of Delivery

**DUE:** April 1, as shown on inside cover

Rating	Moody's Aaa
Tax Status	In the opinion of Hawkins Delafield & Wood LLP, Bond Counsel, under existing statutes and court decisions and assuming continuing compliance with certain tax covenants described herein, (i) interest on the 2016 Series A Bonds is excluded from gross income for Federal income tax purposes pursuant to Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) interest on the 2016 Series A Bonds is not treated as a preference item in calculating the alternative minimum tax imposed on individuals and corporations under the Code; such interest, however, is included in the adjusted current earnings of certain corporations for purposes of calculating the alternative minimum tax imposed on such corporations. In the opinion of Bond Counsel, interest on the 2016 Series A Bonds is exempt from Oregon personal income tax under existing law. See "TAX MATTERS" herein for a discussion of the opinion of Bond Counsel.
Security	The 2016 Series A Bonds are special obligations of the City of Portland, Oregon (the "City"), payable solely from the Net Revenues of the City's Water System as defined in the Master First Lien Water System Revenue Bond Declaration. The 2016 Series A Bonds are issued as "Bonds" and "Parity Obligations" under the Master First Lien Water Revenue Bond Declaration, and are secured on a parity with other water revenue bonds that have a first lien on the Net Revenues of the Water System (collectively referred to herein as the "First Lien Bonds"). See "PROVISIONS OF THE 2016 SERIES A BONDS" herein. The 2016 Series A Bonds do not constitute general obligations of the City, and neither the full faith and credit nor the taxing power of the City is pledged for the payment of the principal of, premium (if any), or interest on the 2016 Series A Bonds. No recourse may be had against any funds or assets of the City (other than the Net Revenues of the Water System and the accounts described in this paragraph) to enforce payment of any amounts owing under or with respect to the 2016 Series A Bonds.
Purpose	The 2016 Series A Bonds are being issued to finance a portion of the costs of the Capital Improvement Plan for the Water System of the City as more fully described herein and to refund all or a portion of the City's First Lien Water System Revenue Refunding Bonds, 2006 Series B and the First Lien Water System Revenue Bonds, 2008 Series A. Proceeds also will fund issuance costs.
Interest Payment Dates	April 1 and October 1, commencing April 1, 2017
Principal Payment Dates	April 1, as shown on inside cover.
Denominations	\$5,000 and any integral multiple thereof.
Redemption	The 2016 Series A Bonds maturing on or after April 1, 2027, are subject to redemption at the option of the City at a price of par on April 1, 2026, or any date thereafter.
Closing/Settlement	On or about December 15, 2016.
Book Entry System	The Depository Trust Company.
Bond Counsel	Hawkins Delafield & Wood LLP, Portland, Oregon.
Paying Agent	U.S. Bank National Association.

**Official Statement Dated December 6, 2016**

## MATURITY SCHEDULE

**\$168,525,000**

**First Lien Water System Revenue and Refunding Bonds  
2016 Series A**

<b><u>Due</u> <u>April 1</u></b>	<b><u>Principal</u> <u>Amount</u></b>	<b><u>Interest</u> <u>Rate</u></b>	<b><u>Price or</u> <u>Yield</u></b>	<b><u>CUSIP No.</u> <u>736754 (1)</u></b>
2017	\$2,375,000	2.00%	0.75%	NQ1
2018	9,305,000	5.00	1.05	NR9
2019	10,895,000	5.00	1.33	NS7
2020	11,435,000	5.00	1.56	NT5
2021	12,015,000	5.00	1.78	NU2
2022	5,135,000	5.00	1.91	NV0
2023	5,390,000	5.00	2.02	NW8
2024	5,665,000	5.00	2.17	NX6
2025	5,945,000	5.00	2.30	NY4
2026	6,240,000	5.00	2.40	NZ1
2027	6,555,000	4.00	2.62	PA4
2028	6,820,000	4.00	2.70	PB2
2029	7,090,000	4.00	3.00	PC0
2030	7,375,000	4.00	3.11	PD8
2031	7,665,000	4.00	3.20	PE6
2032	7,975,000	4.00	3.28	PF3
2033	8,290,000	4.00	3.35	PG1
2034	8,625,000	4.00	3.41	PH9
2035	4,270,000	4.00	3.46	PJ5
2036	4,440,000	4.00	3.60	PK2
2037	4,620,000	4.00	3.64	PL0
2038	4,805,000	4.00	3.68	PM8
2039	4,995,000	4.00	3.70	PN6
2040	5,195,000	4.00	3.71	PP1
2041	5,405,000	4.00	3.70	PQ9

- (1) CUSIP is a registered trademark of the American Bankers Association. CUSIP data herein is provided by CUSIP Global Services, managed by Standard & Poor's Financial Services LLC on behalf of The American Bankers Association. This data is not intended to create a database and does not serve in any way as a substitute for the CUSIP Services. The City is not responsible for the selection or correctness of the CUSIP numbers set forth herein, and no representation is made as to their correctness on the applicable 2016 Series A Bonds as included herein.

**OFFICIAL STATEMENT  
OF THE  
CITY OF PORTLAND  
MULTNOMAH, WASHINGTON AND CLACKAMAS COUNTIES  
STATE OF OREGON  
Relating to**

**\$168,525,000  
First Lien Water System Revenue Bonds  
2016 Series A**

**CITY COUNCIL**

Charlie Hales <sup>(1)</sup>  
Mayor and Commissioner of Finance and Administration

Amanda Fritz, Commissioner No. 1  
Nick Fish, Commissioner No. 2  
Dan Saltzman, Commissioner No. 3  
Steve Novick<sup>(2)</sup>, Commissioner No. 4

**CITY OFFICIALS**

Mary Hull Caballero, City Auditor  
Jennifer Cooperman, City Treasurer  
Tracy Reeve, City Attorney  
Fred Miller <sup>(3)</sup>, Chief Administrative Officer  
Kenneth L. Rust, Chief Financial Officer

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Portland, Oregon

**FINANCIAL ADVISOR**

PFM Financial Advisors LLC  
Seattle, Washington

<sup>(1)</sup> According to the abstract of votes received by Multnomah County Elections, Ted Wheeler was elected outright to the position of Mayor after receiving the majority of votes in the May 17, 2016, Primary Election. His term begins January 1, 2017.

<sup>(2)</sup> According to unofficial results, Chloe Eudaly won the majority of votes at the Municipal General Election on November 8, 2016, for the position of Commissioner No. 4. Official results will be certified by the County by November 28, 2016, and by the City no later than December 8, 2016. As of November 22, 2016, results are unofficial, but the outcome is not expected to change.

<sup>(3)</sup> Fred Miller has announced his retirement and, effective January 3, 2017, Tom Rinehart will become the Chief Administrative Officer.

No dealer, broker, salesperson or other person has been authorized by the City of Portland (the “City”) to give any information or to make any representations, other than those contained in this Official Statement, and, if given or made, such other information or representations must not be relied upon as having been authorized by the City. Bond Counsel’s review of this document is limited; see “LEGAL MATTERS” herein.

This Official Statement speaks only as of its date, and the information contained herein is subject to change without notice. Certain statements contained in this Official Statement are projections, forecasts and other statements about future events. These statements (“Forward Looking Statements”) are not statements of historical facts and no assurance can be given that the results shown in these Forward Looking Statements will be achieved. See “FORWARD LOOKING STATEMENTS.” All estimates set forth herein have been made on the best information available and are believed to be reliable, but no representations whatsoever are made that such estimates are correct. So far as any statements herein involve any matters of opinion, whether or not expressly so stated, they are intended merely as such and are not representations of fact.

This Official Statement does not constitute an offer to sell or the solicitation of any offer to buy, nor shall there be any sale of the 2016 Series A Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The 2016 Series A Bonds have not been registered under the Securities Act of 1933, as amended, in reliance upon a specific exemption contained in such act, nor have the 2016 Series A Bonds been registered under the securities laws of any state.

In making an investment decision, potential investors must rely on their own examination of the City and the terms of the offering, including the merits and risks involved. These securities have not been recommended by any federal or state securities commission or regulatory authority. Furthermore, the foregoing authorities have not confirmed the accuracy or determined the adequacy of this Official Statement. Any representation to the contrary is a criminal offense.

In connection with this offering, the successful bidder (the “Underwriter”) may over allot or effect transactions which stabilize or maintain the market price of the 2016 Series A Bonds at a level above that which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued, and if discontinued, then recommenced, at any time. The public offering prices or yields set forth on the inside front cover hereof may be changed from time to time by the Underwriter. The Underwriter may offer and sell the 2016 Series A Bonds to certain dealers, unit investment trusts or money market funds at prices lower than the public offering prices stated on the inside cover page hereof.

## TABLE OF CONTENTS

<b>INTRODUCTION .....</b>	<b>1</b>
<b>THE 2016 SERIES A BONDS .....</b>	<b>2</b>
DESCRIPTION .....	2
PURPOSE.....	2
FORM.....	2
MATURITY AND PAYMENT .....	2
REDEMPTION OF THE 2016 SERIES A BONDS.....	2
REFUNDING PLAN .....	3
ESTIMATED SOURCES AND USES OF BOND PROCEEDS .....	5
DEBT SERVICE ON THE 2016 SERIES A BONDS.....	6
<b>PROVISIONS OF THE 2016 SERIES A BONDS.....</b>	<b>8</b>
SPECIAL OBLIGATION; PLEDGE OF NET REVENUES .....	8
FIRST LIEN BOND RATE COVENANT.....	8
FUNDS AND ACCOUNTS.....	8
APPLICATION OF GROSS REVENUES .....	9
REVENUE BOND RESERVE ACCOUNT .....	10
PARITY OBLIGATIONS .....	10
SUBORDINATE OBLIGATIONS.....	11
OTHER COVENANTS .....	12
CONSENT OF OWNERS OF 2016 SERIES A BONDS TO FUTURE AMENDMENTS .....	13
<b>THE WATER SYSTEM .....</b>	<b>14</b>
GENERAL INFORMATION .....	14
SUMMARY OF KEY FEATURES .....	16
SOURCES OF SUPPLY .....	17
EFFECTS OF CLIMATE CHANGE ON SUPPLY .....	19
TREATMENT, TRANSMISSION, STORAGE, AND DISTRIBUTION .....	20
SYSTEM PLANNING AND OPERATIONS .....	20
BULL RUN WATERSHED HYDROELECTRIC POWER GENERATION .....	21
<b>REGULATORY ENVIRONMENT .....</b>	<b>23</b>
OVERVIEW .....	23
THE SAFE DRINKING WATER ACT .....	23
CURRENT AND EMERGING REGULATORY ISSUES .....	23
ENVIRONMENTAL REGULATIONS AND COMPLIANCE PLANS .....	25
<b>WATER SYSTEM CUSTOMERS, DEMAND, RATES AND BILLING .....</b>	<b>27</b>
OVERVIEW .....	27
RETAIL WATER CUSTOMERS .....	27
WHOLESALE WATER CUSTOMERS .....	28
RETAIL AND WHOLESALE DEMAND .....	30
RATES AND RATE SETTING.....	31
SYSTEM DEVELOPMENT CHARGES .....	33
BILLINGS AND COLLECTIONS.....	34
<b>ORGANIZATION AND STAFF OF THE PORTLAND WATER BUREAU .....</b>	<b>35</b>
BUREAU ORGANIZATION.....	35
ADMINISTRATOR'S OFFICE AND WORK GROUPS.....	37
MANAGEMENT PERSONNEL.....	37
BUREAU PROGRAMS .....	38
CITIZEN INVOLVEMENT .....	39
<b>CAPITAL IMPROVEMENT PLAN .....</b>	<b>41</b>
THE CAPITAL PLANNING PROCESS.....	41
CAPITAL PROGRAMS AND PROJECTS.....	42
CAPITAL IMPROVEMENT PLAN RESOURCES AND REQUIREMENTS.....	42
<b>FINANCIAL POLICIES AND PLANNING STANDARDS.....</b>	<b>45</b>
FIVE-YEAR FINANCIAL PLAN.....	45

FINANCIAL OPERATIONS POLICIES .....	45
POLICIES AND PLANS GOVERNING BOND ISSUES .....	45
<b>WATER SYSTEM OPERATING AND FINANCIAL INFORMATION .....</b>	<b>46</b>
OVERVIEW .....	46
FUND ACCOUNTING SYSTEM.....	46
HISTORICAL OPERATING RESULTS .....	46
OTHER FINANCIAL INFORMATION .....	48
<b>FINANCIAL PROJECTIONS .....</b>	<b>49</b>
KEY FORECAST ASSUMPTIONS.....	49
USE OF RATE STABILIZATION ACCOUNT .....	49
FORECAST REVENUES AND EXPENDITURES .....	50
FORECAST RATES AND CHARGES .....	53
<b>THE INITIATIVE PROCESS.....</b>	<b>55</b>
PROCESS FOR QUALIFYING STATE-WIDE INITIATIVES TO BE PLACED ON THE BALLOT.....	55
FUTURE STATE-WIDE INITIATIVE MEASURES .....	56
LOCAL INITIATIVES.....	56
<b>TAX MATTERS .....</b>	<b>56</b>
OPINION OF BOND COUNSEL.....	56
CERTAIN ONGOING FEDERAL TAX REQUIREMENTS AND COVENANTS .....	57
CERTAIN COLLATERAL FEDERAL TAX CONSEQUENCES .....	57
BOND PREMIUM.....	57
INFORMATION REPORTING AND BACKUP WITHOLDING.....	57
MISCELLANEOUS.....	58
<b>RATING .....</b>	<b>58</b>
<b>FORWARD LOOKING STATEMENTS.....</b>	<b>58</b>
<b>FINANCIAL ADVISOR .....</b>	<b>58</b>
<b>LEGAL MATTERS.....</b>	<b>58</b>
<b>LITIGATION.....</b>	<b>59</b>
<b>CERTIFICATE WITH RESPECT TO OFFICIAL STATEMENT .....</b>	<b>59</b>
<b>MISCELLANEOUS .....</b>	<b>60</b>
<b>CONTINUING DISCLOSURE .....</b>	<b>60</b>
<b>CONCLUDING STATEMENT.....</b>	<b>60</b>
<b>APPENDICES</b>	
A: MASTER FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION	
B: 2016 SERIES A SUPPLEMENTAL FIRST LIEN BOND DECLARATION	
C: EXCERPTS OF AUDITED FINANCIAL STATEMENTS	
D: CITY OPERATING AND FINANCIAL INFORMATION	
E: CITY ECONOMIC CHARACTERISTICS	
F: LEGAL OPINION	
G: CONTINUING DISCLOSURE CERTIFICATE	
H: BEO SYSTEM	

**OFFICIAL STATEMENT  
OF THE  
CITY OF PORTLAND, OREGON  
RELATED TO  
\$168,525,000  
FIRST LIEN WATER SYSTEM REVENUE AND REFUNDING BONDS  
2016 SERIES A**

**INTRODUCTION**

The purpose of this Official Statement is to set forth certain information concerning the City of Portland, Oregon (the “City”), the City’s Water System (the “Water System”), and the City’s First Lien Water System Revenue and Refunding Bonds, 2016 Series A (the “2016 Series A Bonds”) dated as of the Date of Delivery.

The 2016 Series A Bonds will be issued pursuant to the authority conferred by Oregon Revised Statutes (ORS) 287A.150 and ORS 287A.360 to 287A.375. Revenue bonds issued under this authority may be payable from all or any portion of the Net Revenues of the Water System.

On October 19, 2016, the City enacted Ordinance No. 188045, authorizing the City to put into effect amendments to the provisions of Ordinance No. 166756, originally enacted as of July 21, 1993, as amended and supplemented (the “First Lien Bond Ordinance”), that will benefit the City. Effective as of the Date of Delivery of the 2016 Series A Bonds, the City executed the Master First Lien Water System Revenue Bond Declaration (the “Master First Lien Bond Declaration”) to amend and replace the First Lien Bond Ordinance. Reference is made to Appendix A, “MASTER FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION” for the Master First Lien Bond Declaration. The City has previously received the consents required under the First Lien Bond Ordinance with respect to the amendments and upon defeasance of the Refunded Bonds (defined below) and the issuance of the 2016 Series A Bonds, the City will have satisfied the amendment requirements of the First Lien Bond Ordinance. By purchasing the 2016 Series A Bonds, owners will be deemed to have consented to the amendments reflected in the Master First Lien Bond Declaration and future amendments described below in “—CONSENT OF OWNERS OF 2016 SERIES A BONDS TO FUTURE AMENDMENTS.”

City Ordinance No. 188045 also authorizes the issuance of the 2016 Series A Bonds and delegates the authority to the City’s Debt Manager to execute a supplemental bond declaration (the “2016 Supplemental Declaration”). The 2016 Supplemental Declaration establishes terms and conditions specific to the 2016 Series A Bonds.

The 2016 Series A Bonds are secured by a first lien on, and are payable solely from the Net Revenues as provided in the Master First Lien Bond Declaration. The 2016 Series A Bonds have a lien on the Net Revenues that is on parity with outstanding obligations and future borrowings issued under the Master First Lien Bond Declaration (collectively referred to herein as the “First Lien Bonds”).

The body of this Official Statement briefly summarizes many of the provisions of the Master First Lien Bond Declaration and the 2016 Supplemental Declaration and does not purport to be complete. Reference is made to the Master First Lien Bond Declaration found in Appendix A and the 2016 Supplemental Declaration found in Appendix B for full and complete details of their proposed contents. Capitalized terms that are used but not defined in the body of this Official Statement have the meanings defined for those terms in the Master First Lien Bond Declaration or the 2016 Supplemental Declaration.

**The 2016 Series A Bonds do not constitute general obligations of the City, and neither the full faith and credit nor the taxing power of the City is pledged for the payment of the principal of, premium (if any), or interest on the 2016 Series A Bonds. No recourse may be had against any funds or assets of the City to enforce payment of any amounts owing under or with respect to the 2016 Series A Bonds except the amounts specifically pledged to pay those Bonds in the Master First Lien Bond Declaration and the 2016 Supplemental Declaration.**

## **THE 2016 SERIES A BONDS**

### **DESCRIPTION**

The 2016 Series A Bonds will be issued in registered Book Entry Only (“BEO”) form, without coupons, in denominations of \$5,000 or integral multiples thereof. The 2016 Series A Bonds, when executed and delivered, will be registered in the name of Cede & Co. as the registered owner and nominee for The Depository Trust Company, New York, New York (“DTC”). While the 2016 Series A Bonds are in BEO form, principal of and interest on the 2016 Series A Bonds will be paid through DTC. See “BEO SYSTEM,” found in Appendix H.

The 2016 Series A Bonds are valid and binding obligations of the City. The 2016 Series A Bonds are payable solely from the Net Revenues of the Water System that are available for deposit in the Revenue Bond Account pursuant to the First Lien Bond Declaration. See “PROVISIONS OF THE 2016 SERIES A BONDS” herein.

### **PURPOSE**

The 2016 Series A Bonds are being issued to finance a portion of the costs of the Capital Improvement Plan for the Water System. See “CAPITAL IMPROVEMENT PLAN” herein. The 2016 Series A Bonds also are being issued to refund all or a portion of the City’s First Lien Water System Revenue Refunding Bonds, 2006 Series B and the First Lien Water System Revenue Bonds, 2008 Series A (the “Refunded Bonds”). See “THE 2016 SERIES A BONDS—REFUNDING PLAN” herein. Proceeds of the 2016 Series A Bonds also will be used to pay costs of issuance.

### **FORM**

The 2016 Series A Bonds will be issued in fully-registered form without coupons in denominations of \$5,000 or integral multiples thereof. The 2016 Series A Bonds will be issued subject to the BEO System of registration, transfer and payment operated by DTC, and will be subject in all respects to the rules, regulations and agreements pertaining to such BEO System. In accordance with the BEO System, the 2016 Series A Bonds, when executed and delivered, will be registered in the name of Cede & Co., as registered owner and nominee for DTC. Purchasers of the 2016 Series A Bonds who are the Beneficial Owners thereof will not receive certificates evidencing their ownership interests in the 2016 Series A Bonds. While Cede & Co. is the registered Owner of the 2016 Series A Bonds (in such capacity, the “Owner”) as nominee of DTC, it shall be treated in all respects as the sole Owner of the 2016 Series A Bonds and shall have the right to exercise (in lieu of the Beneficial Owners of the 2016 Series A Bonds) all rights as Owner, including but not limited to the right to give consents, the right to receive notices (including notices of redemption), and other rights conferred on owners of the 2016 Series A Bonds under the Bond Declaration or applicable law. So long as the 2016 Series A Bonds are subject to the BEO System, all registrations and transfers of Beneficial Ownership of the 2016 Series A Bonds will be made only through the BEO System. See Appendix H, herein, for a discussion of the BEO System.

### **MATURITY AND PAYMENT**

The 2016 Series A Bonds mature on April 1 of the years and in the aggregate principal amounts set forth on the inside cover page of this Official Statement and will bear interest from the Date of Delivery. Accrued and unpaid interest on the 2016 Series A Bonds will be due and payable semiannually on April 1 and October 1 of each year, commencing April 1, 2017, and will be calculated on the basis of a 360-day year consisting of twelve 30-day months.

So long as the 2016 Series A Bonds are subject to the BEO System, all payments of the principal of and interest on the 2016 Series A Bonds shall be remitted by the Paying Agent, currently U.S. Bank National Association (the “Paying Agent”) directly to DTC. DTC, in turn, will be required to distribute such payments to DTC Participants, and the DTC Participants will be responsible for ultimate distribution of such payments to the Beneficial Owners of the 2016 Series A Bonds. The City has no responsibility for the distribution of any payments on the 2016 Series A Bonds by DTC to any DTC Participant or by any DTC Participant to any Beneficial Owner, and shall have no liability whatsoever in the event of any failure by DTC or a DTC Participant to make any such distribution. See “BEO SYSTEM” in Appendix H herein.

### **REDEMPTION OF THE 2016 SERIES A BONDS**

#### **Optional Redemption of the 2016 Series A Bonds**

The 2016 Series A Bonds maturing on or after April 1, 2027, are subject to redemption prior to maturity in whole or in part at the option of the City on any date on or after April 1, 2026, in any order of maturity and by lot within a maturity. Any such



redemption shall be at a price equal to 100% of the principal amount to be redeemed, plus accrued and unpaid interest thereon to the date fixed for redemption. In the case of any redemption of less than all of the outstanding 2016 Series A Bonds, the City shall have the right to specify the particular maturities to be redeemed and the aggregate principal amount of each maturity to be redeemed.

### **Notice of Redemption**

Unless DTC consents to a shorter period, for any 2016 Series A Bonds which are in book-entry-only form, the Paying Agent shall notify DTC of the redemption of the 2016 Series A Bonds not less than 20 days prior to the date fixed for redemption or such lesser time as may be permitted under DTC's operational arrangements then in effect, and in the manner required in the city's Letter of Representations to DTC. No other notice shall be required.

It shall be the sole responsibility of DTC to give all notices of redemption to DTC Participants, and the DTC Participants, in turn, shall be responsible for giving such notices to the Beneficial Owners. Neither the City nor the Paying Agent will be responsible for giving any notice of redemption to any Beneficial Owner or any DTC Participant, nor shall the City or the Paying Agent be liable for any failure of DTC or any DTC Participant to give any such notice as described above. Interest on any 2016 Series A Bond or 2016 Series A Bonds called for redemption shall cease on the redemption date designated in the notice.

### **Conditional Notice of Redemption**

Any notice of optional redemption to the Paying Agent or to the Owners may be cancelled by the City at any time before the 2016 Series A Bonds are redeemed. The Paying Agent is required to give notice of any such cancellation to affected Owners of the 2016 Series A Bonds as promptly as practicable.

### **REFUNDING PLAN**

To achieve debt service savings, the City has applied a portion of the proceeds from the sale of the 2016 Series A Bonds to refund outstanding maturities of the Refunded Bonds. A portion of the proceeds of the 2016 Series A Bonds will be placed in an irrevocable escrow fund to be used to purchase certain government obligations (referred to herein as "Government Obligations") to be held by U.S. Bank National Association, acting as escrow agent (the "Escrow Agent"). The maturing principal of the Government Obligations, interest earned thereon, and necessary cash balance, if any, will provide funds that are sufficient to pay the principal of, interest on, and any redemption premium on the Refunded Bonds. The Government Obligations, interest earned thereon, and necessary cash balance, will irrevocably be pledged to and held in trust for the benefit of the Owners of the Refunded Bonds by the Escrow Agent, pursuant to the Escrow Deposit Agreement.

The table below shows the Refunded Bonds to be refunded with the 2016 Series A Bonds.

### **Verification of Mathematical Calculations**

Grant Thornton LLP, a firm of independent public accountants (the "Verification Agent"), will deliver to the City, on or before the Date of Delivery, its verification report indicating that it has verified, in accordance with attestation standards established by the American Institute of Certified Public Accountants, the mathematical accuracy of (a) the mathematical computations of the adequacy of the cash and the maturing principal of and interest on the Government Obligations, to pay, when due, the maturing principal of, interest on and related call premium requirements of the Refunded Bonds and (b) the mathematical computations of yield used by Bond Counsel to support its opinion that interest on the 2016 Series A Bonds will be excluded from gross income for federal income tax purposes.

The verification performed by the Verification Agent will be solely based upon data, information and documents provided to the Verification Agent by the City and its representatives. The Verification Agent has restricted its procedures to recalculating the computations provided by the City and its representatives and has not evaluated or examined the assumptions or information used in the computations.

**Table 1**  
**CITY OF PORTLAND, OREGON**  
**Refunding Plan for the Refunded Bonds**

<b>CUSIP No.</b> <b>736754</b>	<b>Refunded</b> <b>Maturity</b>	<b>Principal</b> <b>Amount</b>	<b>Redemption</b> <b>Date</b>	<b>Redemption</b> <b>Price</b>
<i>First Lien 2006 Series B Bonds</i>				
GA4	10/1/2017	\$5,600,000	1/17/2017	100%
GB2	10/1/2018	7,010,000	1/17/2017	100%
GC0	10/1/2019	7,315,000	1/17/2017	100%
GD8	10/1/2020	7,630,000	1/17/2017	100%
		<u>\$27,555,000</u>		
<i>First Lien 2008 Series A Bonds</i>				
GN6	11/1/2017	\$2,545,000	at maturity	100%
GP1	11/1/2018	2,665,000	11/1/2018	100%
GQ9	11/1/2019	2,770,000	11/1/2018	100%
GR7	11/1/2020	2,885,000	11/1/2018	100%
GS5	11/1/2021	3,005,000	11/1/2018	100%
GT3	11/1/2022	3,135,000	11/1/2018	100%
GU0	11/1/2023	3,280,000	11/1/2018	100%
GV8	11/1/2024	3,435,000	11/1/2018	100%
GW6	11/1/2025	3,605,000	11/1/2018	100%
GX4	11/1/2026	3,780,000	11/1/2018	100%
GY2	11/1/2027	3,965,000	11/1/2018	100%
GZ9	11/1/2028	4,155,000	11/1/2018	100%
HA3	11/1/2029	4,360,000	11/1/2018	100%
HB1	11/1/2030	4,570,000	11/1/2018	100%
HC9	11/1/2031	4,795,000	11/1/2018	100%
HD7	11/1/2032	5,025,000	11/1/2018	100%
HE5	11/1/2033	5,270,000	11/1/2018	100%
		<u>\$63,245,000</u>		

Source: City of Portland.

## ESTIMATED SOURCES AND USES OF BOND PROCEEDS

The anticipated sources and uses of proceeds from the 2016 Series A Bonds are itemized in the following table.

**Table 2**  
**CITY OF PORTLAND, OREGON**  
**Estimated Sources and Uses of 2016 Series A Bond Proceeds**

**Sources of Funds**

Par amount of bonds	\$168,525,000.00
Net original issue premium/(discount)	14,864,823.75
Prior debt service reserve	<u>5,398,543.76</u>
TOTAL SOURCES	<u>\$188,788,367.51</u>

**Uses of Funds**

Deposit to construction fund	\$92,717,233.76
Deposit to refunding escrow	95,503,409.39
Underwriter's discount	420,154.22
Costs of issuance	<u>147,570.14</u>
TOTAL USES	<u>\$188,788,367.51</u>

Source: City of Portland.

## DEBT SERVICE ON THE 2016 SERIES A BONDS

Table 3 presents the debt service on the 2016 Series A Bonds. Table 4 presents annual debt service on all outstanding First and Second Lien Bonds and the 2016 Series A Bonds.

**Table 3**  
**CITY OF PORTLAND, OREGON**  
**2016 Series A Bonds – Annual Debt Service Requirements**

<b>Fiscal Year Ending June 30th</b>	<b>Principal</b>	<b>Interest</b>	<b>Total</b>
2017	\$2,375,000	\$2,182,938	\$4,557,938
2018	9,305,000	7,366,250	16,671,250
2019	10,895,000	6,901,000	17,796,000
2020	11,435,000	6,356,250	17,791,250
2021	12,015,000	5,784,500	17,799,500
2022	5,135,000	5,183,750	10,318,750
2023	5,390,000	4,927,000	10,317,000
2024	5,665,000	4,657,500	10,322,500
2025	5,945,000	4,374,250	10,319,250
2026	6,240,000	4,077,000	10,317,000
2027	6,555,000	3,765,000	10,320,000
2028	6,820,000	3,502,800	10,322,800
2029	7,090,000	3,230,000	10,320,000
2030	7,375,000	2,946,400	10,321,400
2031	7,665,000	2,651,400	10,316,400
2032	7,975,000	2,344,800	10,319,800
2033	8,290,000	2,025,800	10,315,800
2034	8,625,000	1,694,200	10,319,200
2035	4,270,000	1,349,200	5,619,200
2036	4,440,000	1,178,400	5,618,400
2037	4,620,000	1,000,800	5,620,800
2038	4,805,000	816,000	5,621,000
2039	4,995,000	623,800	5,618,800
2040	5,195,000	424,000	5,619,000
2041	5,405,000	216,200	5,621,200
Total	\$168,525,000	\$79,579,238	\$248,104,238

Source: City of Portland.

**Table 4**  
**CITY OF PORTLAND, OREGON**  
**Annual Debt Service Requirements – First and Second Lien Bonds (1)**

<b>Fiscal Year Ending June 30</b>	<b>Outstanding First Lien Bonds</b>	<b>2016 Series A Bonds</b>	<b>Outstanding Second Lien Bonds</b>	<b>Total Debt Service</b>
2017	\$30,313,725	\$4,557,938	\$18,772,475	\$53,644,138
2018	20,317,075	16,671,250	18,777,975	55,766,300
2019	20,318,275	17,796,000	17,655,100	55,769,375
2020	20,314,525	17,791,250	17,664,850	55,770,625
2021	20,317,275	17,799,500	17,658,600	55,775,375
2022	20,315,275	10,318,750	18,766,350	49,400,375
2023	20,312,025	10,317,000	18,774,350	49,403,375
2024	20,315,725	10,322,500	18,777,725	49,415,950
2025	20,315,275	10,319,250	14,563,225	45,197,750
2026	20,310,925	10,317,000	14,564,475	45,192,400
2027	20,310,975	10,320,000	14,562,225	45,193,200
2028	20,310,125	10,322,800	14,565,225	45,198,150
2029	20,316,125	10,320,000	14,563,125	45,199,250
2030	20,317,488	10,321,400	14,561,900	45,200,788
2031	20,313,238	10,316,400	14,554,900	45,184,538
2032	20,310,938	10,319,800	14,564,000	45,194,738
2033	20,312,175	10,315,800	9,922,600	40,550,575
2034	20,310,225	10,319,200	9,923,250	40,552,675
2035	20,309,225	5,619,200	9,924,800	35,853,225
2036	15,492,088	5,618,400	9,922,600	31,033,088
2037	9,832,175	5,620,800	9,921,100	25,374,075
2038	5,354,925	5,621,000	9,924,600	20,900,525
2039	5,350,800	5,618,800	--	10,969,600
2040	--	5,619,000	--	5,619,000
2041	--	5,621,200	--	5,621,200
<b>TOTAL</b>	<b>\$431,990,600</b>	<b>\$248,104,238</b>	<b>\$322,885,450</b>	<b>\$1,002,980,288</b>

Notes:

(1) Totals may not foot due to rounding.

Source: City of Portland.

## PROVISIONS OF THE 2016 SERIES A BONDS

This section describes key provisions of the Master First Lien Bond Declaration and the 2016 Supplemental Declaration related to the 2016 Series A Bonds. As previously noted, the City has received the consents required under the First Lien Bond Ordinance with respect to the amendments and upon defeasance of the Refunded Bonds and the issuance of the 2016 Series A Bonds, the City will have satisfied the amendment requirements of the First Lien Bond Ordinance. By purchasing the 2016 Series A Bonds, owners will be deemed to have consented to the amendments reflected in the Master First Lien Bond Declaration.

### SPECIAL OBLIGATION; PLEDGE OF NET REVENUES

The 2016 Series A Bonds are special obligations of the City, payable solely from the Net Revenues of the Water System. The 2016 Series A Bonds are secured by the Net Revenues on a parity with other First Lien Bonds issued under the Master First Lien Bond Declaration. The Net Revenues are pledged to pay the 2016 Series A Bonds, and there are no obligations outstanding that have a pledge of or lien on the Net Revenues which is superior to the pledge of and lien on the Net Revenues for the 2016 Series A Bonds. Net Revenues do not include all revenues of the City relating to the Water System. See Appendix A and the definitions of “Gross Revenues,” “Operating Expenses,” and “Net Revenues” for a detailed statement of the components of Net Revenues.

The 2016 Series A Bonds do not constitute general obligations of the City, and neither the full faith and credit nor the taxing power of the City is pledged for the payment of the principal of, premium (if any) or interest on the 2016 Series A Bonds. No recourse may be had against any funds or assets of the City (other than the Net Revenues of the Water System) to enforce payment of any amounts owing under or with respect to the 2016 Series A Bonds.

See the definition of “Annual Debt Service” in Appendix A for the rules that apply to calculating Annual Debt Service for different types of First Lien Bonds, including Variable Rate Obligations and Parity Derivative Products. See also “Consent of Owners of 2016 Series A Bond to Future Amendments,” below.

Under ORS 287A.310, if a municipality is authorized by statute or municipal charter to pledge its revenues, the pledge is valid and binding from the time the pledge is made, the revenues so pledged are immediately subject to the lien of such pledge without physical delivery, filing or other act, and the lien of such pledge is superior to all other claims and liens of any kind whatsoever. The ORS pursuant to which the 2016 Series A Bonds are being issued authorize such a pledge.

### FIRST LIEN BOND RATE COVENANT

The City covenants for the benefit of all Owners of outstanding First Lien Bonds, including the 2016 Series A Bonds, that it will establish and maintain rates and charges in connection with the operation of the Water System that are sufficient to permit the City to pay all Operating Expenses and all lawful charges against the Net Revenues, and to make all transfers required by the First Lien Bond Declaration to the Revenue Bond Account, the Revenue Bond Reserve Account, and the other accounts established in the First Lien Bond Declaration.

In addition, the City covenants for the benefit of the Owners of all First Lien Bonds that it shall charge rates and fees in connection with the operation of the Water System which, when combined with other Gross Revenues, are adequate to generate Net Revenues each Fiscal Year at least equal to 1.25 times Annual Debt Service on First Lien Bonds due in that Fiscal Year. See the definition of “Annual Debt Service” in Appendix A for the rules which apply to calculating Annual Debt Service for different types of First Lien Bonds, including Variable Rate Obligations and Parity Derivative Products.

It shall not constitute an Event of Default if the City fails to comply with the rate covenant as long as the City engages the services of a Qualified Consultant; the Qualified Consultant recommends a schedule of rates and charges or other actions which the Qualified Consultant reasonably projects will permit the City to comply with the rate covenant for the then current fiscal year; and, the City implements the recommendations of the Qualified Consultant.

### FUNDS AND ACCOUNTS

The City covenants to deposit the Gross Revenues in the Water Enterprise Fund.

The Master First Lien Bond Declaration establishes the following accounts in the Water Enterprise Fund:

- **Revenue Bond Account:** Amounts in this account may be used only to pay First Lien Bonds.

- **Revenue Bond Reserve Account:** This account is divided into subaccounts for different Series of First Lien Bonds issued prior to September 1, 2016. Amounts in each subaccount may be used only to pay the Series of First Lien Bonds secured by that subaccount, and only if amounts in the Revenue Bond Account and Net Revenues available in the Water Enterprise Fund are insufficient to pay that Series. The City may elect to secure any Series of Bonds issued after September 1, 2016, with any subaccount in the Revenue Bond Reserve Account created before September 1, 2016, but only if the Supplemental Declaration for that Series of Bonds requires the City to fund that subaccount at the “Reserve Requirement.” See APPENDIX A, MASTER FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION, Section 5.6. The City has elected not to create a subaccount in the Revenue Bond Reserve Account for the 2016 Series A Bonds. See “—REVENUE BOND RESERVE ACCOUNT” below.
- **Subordinate Obligations Account:** Amounts in this account may be used to pay Subordinate Obligations and are required to be used to pay First Lien Bonds if amounts in the Revenue Bond Account and Revenue Bond Reserve Account are not sufficient.
- **Charter General Obligation Bond Account:** Amounts in this account may be used to pay general obligation bonds of the City issued under Section 11-103 of the City Charter to finance the Water System. The City has no current plans to issue general obligation bonds under the authority provided by the City Charter and no such bonds are currently outstanding.
- **Capital Renewal Account:** Amounts in the Capital Renewal Account may be used solely to pay for capital costs of the Water System, including costs of repairing, replacing, improving and expanding the Water System.

## APPLICATION OF GROSS REVENUES

As long as any 2016 Series A Bonds remain issued and outstanding, the Master First Lien Bond Declaration provides that Gross Revenues shall be used solely to pay the following amounts in the following order of priority:

- To pay Operating Expenses of the Water System which are then due;
- To make payments to the Revenue Bond Account in an amount sufficient to make timely payment of all First Lien Bond principal and interest when due, as required by the First Lien Bond Declaration;
- To make transfers to the Revenue Bond Reserve Account to maintain or restore the balance in that account to the Reserve Requirement in accordance with the First Lien Bond Declaration;
- To pay any rebates or penalties for First Lien Bonds when due to be paid to the United States pursuant to Section 148 of the Code;
- To make all transfers required by the Master Second Lien Water System Revenue Bond Declaration, executed as of May 2, 2013 (the “Master Second Lien Bond Declaration”), including to pay debt service on Second Lien Bonds, to fund required debt service reserves for Second Lien Bonds, and to pay any rebates or penalties for Second Lien Bonds when due to be paid to the United States pursuant to Section 148 of the Code;
- To make payments to the Junior Lien Obligations Account (as defined in the Master Second Lien Bond Declaration) as specified in any proceedings authorizing Junior Lien Obligations;
- To transfer to the Charter General Obligation Bond Account an amount sufficient to pay all principal, interest and premium, if any, due on City general obligation bonds issued pursuant to Section 11-103 of the City Charter as specified in the Master First Lien Bond Declaration;
- To pay any franchise fees, utility license fees, and similar charges imposed by the City on the Water System or its operations; and
- While First Lien Bonds are Outstanding, to make transfers of Net Revenues to the Capital Renewal Account in the amounts described in the First Lien Bond Declaration. However, see “—CONSENT OF OWNERS OF 2016 SERIES A BONDS TO FUTURE AMENDMENTS” herein.

After all transfers and payments having a higher priority under this section have been made, Net Revenues may be applied for any other lawful purpose, including transfers to the Rate Stabilization Account as defined in the Master Second Lien Bond Declaration. See “—SUBORDINATE OBLIGATIONS—Second Lien Bonds” herein.

## REVENUE BOND RESERVE ACCOUNT

### No Subaccount in the Revenue Bond Reserve Account for 2016 Series A Bonds

The City has elected not to create a subaccount in the Revenue Bond Reserve Account to secure the 2016 Series A Bonds.

### Reserve Subaccounts of the Revenue Bond Reserve Account

The reserve subaccounts in the Revenue Bond Reserve Account are not available to pay the 2016 Series A Bonds and the remainder of the subsection is presented for informational purposes only. The City has established separate subaccounts in the Revenue Bond Reserve Account for each Series of Bonds that were issued before September 1, 2016. These subaccounts are fully funded with cash as shown in the table below. See Appendix A and the definition of “Reserve Requirement.” Also see Appendix B, 2016 SERIES A SUPPLEMENTAL FIRST LIEN WATER BOND DECLARATION, “Section 5. No Reserve Account.”

**Table 5**  
**CITY OF PORTLAND, OREGON**  
**Reserve Subaccounts for First Lien Bonds (1)**

Series	Date of Issue	Maturity Date	Surety Provider/ Cash	Surety Face Value/ Cash Amount
2010 Series A	02/11/10	05/01/35	Cash	\$4,826,425
2011 Series B	03/22/11	05/01/36	Cash	\$5,659,388
2012 Series A	08/02/12	04/01/37	Cash	\$4,482,938
2014 Series A	12/16/14	05/01/39	Cash	\$5,574,175

Notes:

(1) As of the delivery date of the 2016 Series A Bonds.

Source: City of Portland.

### Reserve Credit Facilities

The Master First Lien Bond Declaration allows the City to fund any subaccount in the Revenue Bond Reserve Account that was created before September 1, 2016, with a Reserve Credit Facility. See APPENDIX A, MASTER FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION, Section 5.7.B.iv.

## PARITY OBLIGATIONS

The Master First Lien Bond Declaration permits the City to issue Parity Obligations to provide funds for any purpose relating to the Water System, but only if no Event of Default has occurred and is continuing, there is no deficiency in the Revenue Bond Account, the balance in the Revenue Bond Reserve Account is at least equal to the Reserve Requirement, and there has been filed with the City either:

1. A certificate of the Director stating that Net Revenues (adjusted by the Director as provided below) for the Base Period were not less than one hundred twenty-five percent (125%) of the average Annual Debt Service on all Outstanding First Lien Bonds, with the proposed Parity Obligations treated as Outstanding; or,
2. A certificate or opinion of a Qualified Consultant stating that the Adjusted Net Revenues (computed as provided below) are at least one hundred twenty-five percent (125%) of the average Annual Debt Service on all Outstanding First Lien Bonds, with the Proposed Parity Obligations treated as Outstanding.



Net Revenues may be adjusted by the Director by adding any Net Revenues the Director calculates the City would have had during the Base Period because of increases in Water System rates, fees and charges which took effect after the beginning of the Base Period. However, no adjustment shall be made for these increases unless they have been approved by the Council prior to delivery of the Proposed Parity Obligations and are required to take effect no later than sixty days after the delivery of the proposed Parity Obligations.

The Qualified Consultant may compute Adjusted Net Revenues by adjusting the Net Revenues for the Base Period in any of the following ways:

1. If the First Lien Bonds are being issued for the purpose of acquiring operating Water System utility properties having an earnings record, the Qualified Consultant may estimate the effect on the Net Revenues for the Base Period if the Water System utility properties had been part of the Water System during the Base Period. The estimate shall be based on the operating experience and records of the City and any available financial records relating to the Water System utility properties which will be acquired.
2. To reflect any changes in rates and charges that have been adopted by the City Council and which:
  - a. Are in effect on the date of sale and delivery of the First Lien Bonds; or
  - b. Are to go into effect not later than twelve months after such date, and were not in effect during the entire Base Period.
3. To reflect any customers added to the Water System after the beginning of the Base Period and prior to the date of the Qualified Consultant's certificate;
4. If extensions of or additions to the Water System are in the process of construction on the date of the Qualified Consultant's certificate, or if the proceeds of the First Lien Bonds being issued are to be used to acquire or construct extensions of or additions to the Water System, to reflect any additional Net Revenues not included in the preceding paragraphs that will be derived from such additions and extensions (after deducting the estimated increase in operating and maintenance expenses resulting from such additions and extensions).

The City may issue Parity Obligations to refund Outstanding First Lien Bonds without complying with the foregoing requirements if the refunded First Lien Bonds are defeased on the date of delivery of the refunding Parity Obligations and if the Annual Debt Service on the refunding Parity Obligations does not exceed the Annual Debt Service on the refunded First Lien Bonds in any Fiscal Year by more than \$5,000.

All Parity Obligations issued in accordance with the requirement of the Master First Lien Bond Declaration shall have a lien on the Net Revenues which is equal to the lien of all other Outstanding First Lien Bonds.

## **SUBORDINATE OBLIGATIONS**

### **Overview**

The City may issue Subordinate Obligations, including bonds issued under the terms of the Master Second Lien Bond Declaration (the "Second Lien Bonds"), only if: 1) the Subordinate Obligations are payable solely from amounts permitted to be deposited in the Subordinate Obligations Account pursuant to the Ordinance; 2) the Subordinate Obligations are not subject to acceleration; and, 3) the Subordinate Obligations state clearly that they are secured by a lien on or pledge of the Net Revenues which is subordinate to the lien on, and pledge of, the Net Revenues for the Bonds.

### **Second Lien Bonds**

The Master Second Lien Bond Declaration describes requirements for issuing Second Lien Bonds. Among the key provisions are the following:

**Second Lien Bond Rate Covenant.** The City has covenanted for the benefit of the Owners of the Second Lien Bonds:

1. that it shall charge rates and fees in connection with the operation of the Water System which, when combined with other Gross Revenues, are adequate to generate Net Revenues each Fiscal Year at least equal to one hundred percent

(100.00%) of Combined Annual Debt Service (defined as the sum of the Annual First Lien Bond Debt Service and the Annual Second Lien Bond Debt Service) on both First and Second Lien Bonds due in that Fiscal Year; and

2. that it shall charge rates and fees in connection with the operation of the Water System which, when combined with other Gross Revenues are adequate to generate Stabilized Net Revenues each Fiscal Year that are at least equal to one hundred ten percent (110.00%) of Combined Annual Debt Service due in that Fiscal Year.

**Funds and Accounts.** The Master Second Lien Bond Declaration establishes the following accounts in the Subordinate Obligations Account of the Water Enterprise Fund:

- **Second Lien Bond Account.** Amounts in the Second Lien Bond Account maybe used only to pay Second Lien Bonds.
- **Second Lien Bond Reserve Account.** Amounts credited to the Second Lien Bond Reserve Account may be used only to pay Second Lien Bonds described in this paragraph. This account is divided into subaccounts for different Series of Second Lien Bonds. Amounts in each subaccount may only be used only to pay the Series of Second Lien Bonds secured by that subaccount. The City shall maintain an amount in each subaccount that is equal to the Second Lien Bond Reserve Requirement for the Series that is secured by that subaccount. The City may fund the Second Lien Bond Reserve Requirement for each Series of Second Lien Bonds with a Reserve Credit Facility.
- **Junior Lien Obligations Account.** Amounts in this account may be used to pay Junior Lien Obligations, if any. There are no Junior Lien Obligations outstanding as of the delivery date of the 2016 Series A Bonds.

**Second Lien Bond Rate Stabilization Account.** The Master Second Lien Bond Declaration created the Rate Stabilization Account in the Water Operating Fund. As long as Second Lien Bonds are Outstanding, Net Revenues may be transferred to the Rate Stabilization Account at the option of the City as permitted by the Master Second Lien Bond Declaration and may be withdrawn at any time and used for any purpose for which the Gross Revenues may be used. Deposits to the Rate Stabilization Account for a Fiscal Year shall decrease Stabilized Net Revenues for that Fiscal Year and withdrawals from the Rate Stabilization Account shall increase Stabilized Net Revenues for that Fiscal Year. It is the intent of the City to use such deposits and withdrawals to smooth the flow of Net Revenues of the Water System on a year-to-year basis to minimize the size of required Water System rate increases each year.

## **OTHER COVENANTS**

The City covenants it will:

1. Promptly cause the principal, premium, if any, and interest on the First Lien Bonds and the Second Lien Bonds to be paid as they become due in accordance with the provisions of the Master First Lien Bond Declaration and the Master Second Lien Bond Declaration.
2. Maintain records relating to the operation of the Water System and all City funds and accounts in accordance with generally accepted accounting principles, and to have records to be audited annually, and the audit report made available for the inspection of First Lien Bond Owners and Second Lien Bond Owners.
3. For the benefit of First Lien Bond Owners, not issue First Lien Bonds or other obligations having a claim superior to the claim of the First Lien Bonds upon the Net Revenues.
4. For the benefit of Second Lien Bond Owners, not issue obligations which have a lien on the Net Revenues that is superior to the lien of the Second Lien Bonds except for the First Lien Bonds.
5. Not amend the Master First Lien Bond Declaration in any way that materially and adversely affects the right of the Owners of Second Lien Bonds; however, this covenant shall not be construed to limit the ability of the City to issue First Lien Bonds pursuant to the Master First Lien Bond Declaration.
6. Promptly deposit the Gross Revenues into the funds and accounts as required by the First Lien Bond Declaration and the Master Second Lien Bond Declaration.

7. Operate the Water System in a sound, efficient and economic manner in compliance with all health, safety and environmental laws, regulatory body rules, regulatory body orders and court orders applicable to the City's operation and ownership of the Water System.
8. Cause the Water System to be maintained, preserved, reconstructed, expanded and kept in good repair, working order and condition.
9. Not enter into any new agreement to provide Water System products or services at a discount from published rate schedules or to provide free Water System products or services (except in case of emergencies).
10. Self-insure the Water System, or purchase insurance on the Water System of the sort customarily maintained by entities such as the City with respect to properties like the Water System, and that it will apply the net proceeds of insurance covering Water System damage to repair or rebuild the Water System, or to the redemption of the First Lien Bonds and to the extent available after such payment, to the payment or redemption of the Second Lien Bonds on a pro rata basis.
11. Not sell, mortgage, lease or otherwise dispose of or encumber all or any portion of the Water System except as specifically permitted by the Master First Lien Bond Declaration and the Master Second Lien Bond Declaration.

### **CONSENT OF OWNERS OF 2016 SERIES A BONDS TO FUTURE AMENDMENTS**

The following is a description of certain amendments to the Master First Lien Bond Declaration, which as of the date of this Official Statement are not yet effective. By purchasing the 2016 Series A Bonds, owners will be deemed to have consented to the City making, at any time in the future, any or all of the amendments to the Master First Lien Bond Declaration that are described below in this section.

In the 2016 Supplemental Declaration dated as of the Date of Delivery of the 2016 Series A Bonds, the City has reserved the right to amend the Master First Lien Bond Declaration to provide for certain matters (the "First Lien Bond Amendments") as follows:

- Amendments to the definitions of "Annual Debt Service" and "Combined Annual Debt Service" and related terms to reduce debt service, for purposes of the rate covenants and tests for Parity Obligations, by the amount of federal interest subsidy payments that have been received or are expected to be received.
- Amendments that pledge federal interest subsidy payments to pay First Lien Bonds and Second Lien Bonds.
- Amendments deleting the requirement in Section 4.1.I of the Master Declaration that the City make a \$5 million annual contribution to the to the Capital Renewal Account.

In addition, Owners of the 2016 Series A Bonds consent to conforming amendments to the Master First Lien Bond Declaration that are desirable to give effect to the First Lien Bond Amendments described above. See "2016 SERIES A SUPPLEMENTAL FIRST LIEN BOND DECLARATION—Section 14" attached hereto as Appendix B for the proposed amendments.

Pursuant to the Master First Lien Bond Declaration, the First Lien Bond Amendments may take effect upon consent of the Owners of not less than 51 percent in aggregate principal amount of all Outstanding First Lien Bonds affected. As of the Delivery Date of the 2016 Series A Bonds, the City has received consent with respect to the First Lien Bond Amendments from the Owners of more than 51 percent in aggregate principal amount of affected Outstanding First Lien Bonds. The City has the right to make the above-described amendments but has no current plans to incorporate such amendments.

## THE WATER SYSTEM

This section provides a general overview of the Water Bureau (also referred to herein as the “Bureau”) and a description of the Bureau’s two water sources; the treatment, transmission, storage, and distribution systems; hydroelectric power generation, and other topics related to supply, planning, and operations.

### GENERAL INFORMATION

The Bureau has supplied domestic drinking water to residents of the Portland area for more than 100 years and is the largest supplier of domestic water in Oregon. Almost one-quarter of the state’s population—about 970,000 people within a 225-square-mile service area—receive water from the Bureau through wholesale or retail sales. See Figure 1. The Bureau delivered about 33 billion gallons of water to its customers in Fiscal Year (“FY”) 2015-16. On an average basis, the Bureau delivers about 100 million gallons (“MG”) a day. On peak days, the Bureau may deliver as much as 160 MG and has the capacity to deliver over 200 MG.

Portland has two sources of water supply: the Bull Run Watershed, a surface water supply; and the Columbia South Shore Well Field, a backup groundwater supply. Due to the quality of the water of the Bull Run Watershed, the Bureau is one of only five large water suppliers in the country with an exemption from a requirement to filter the water, and the only large water supplier in the nation with a variance to the treatment requirements of the Long Term 2 Enhanced Surface Water Treatment Rule (the “LT2 Rule”). See “REGULATORY ENVIRONMENT” and “SYSTEM PLANNING AND OPERATIONS” herein.

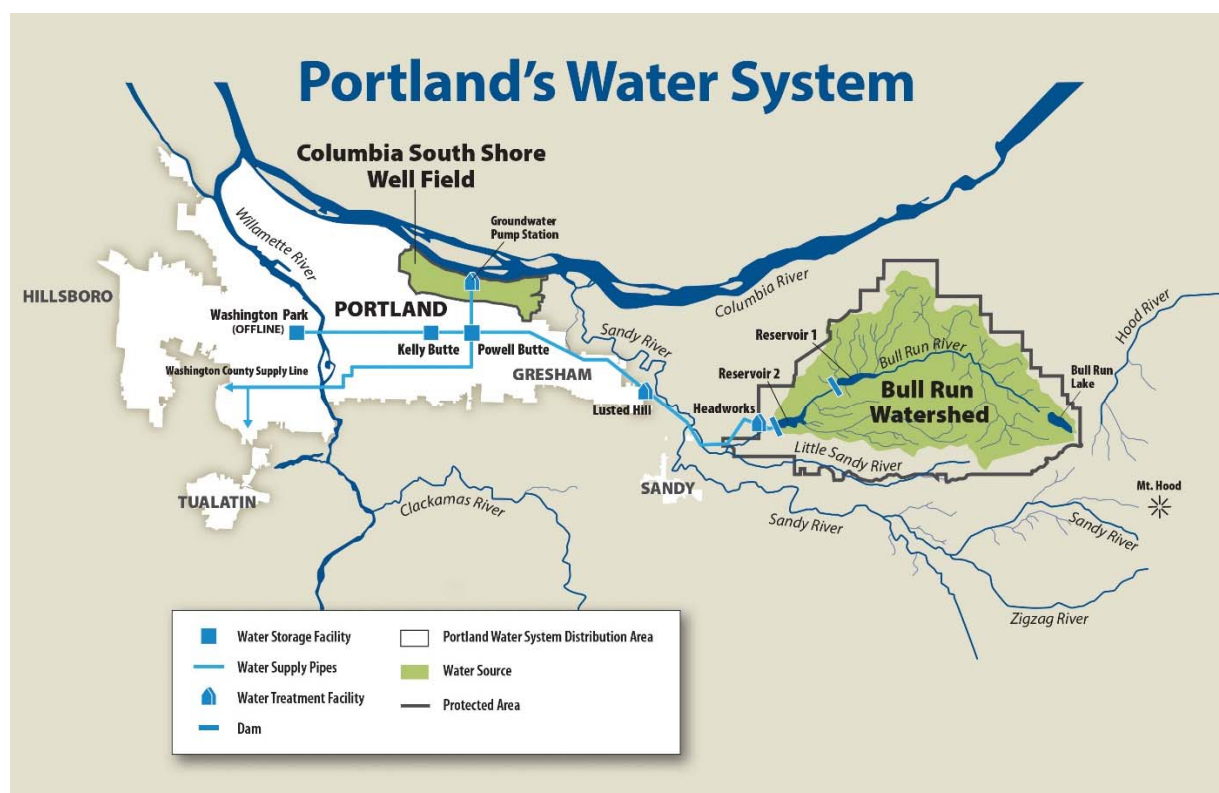
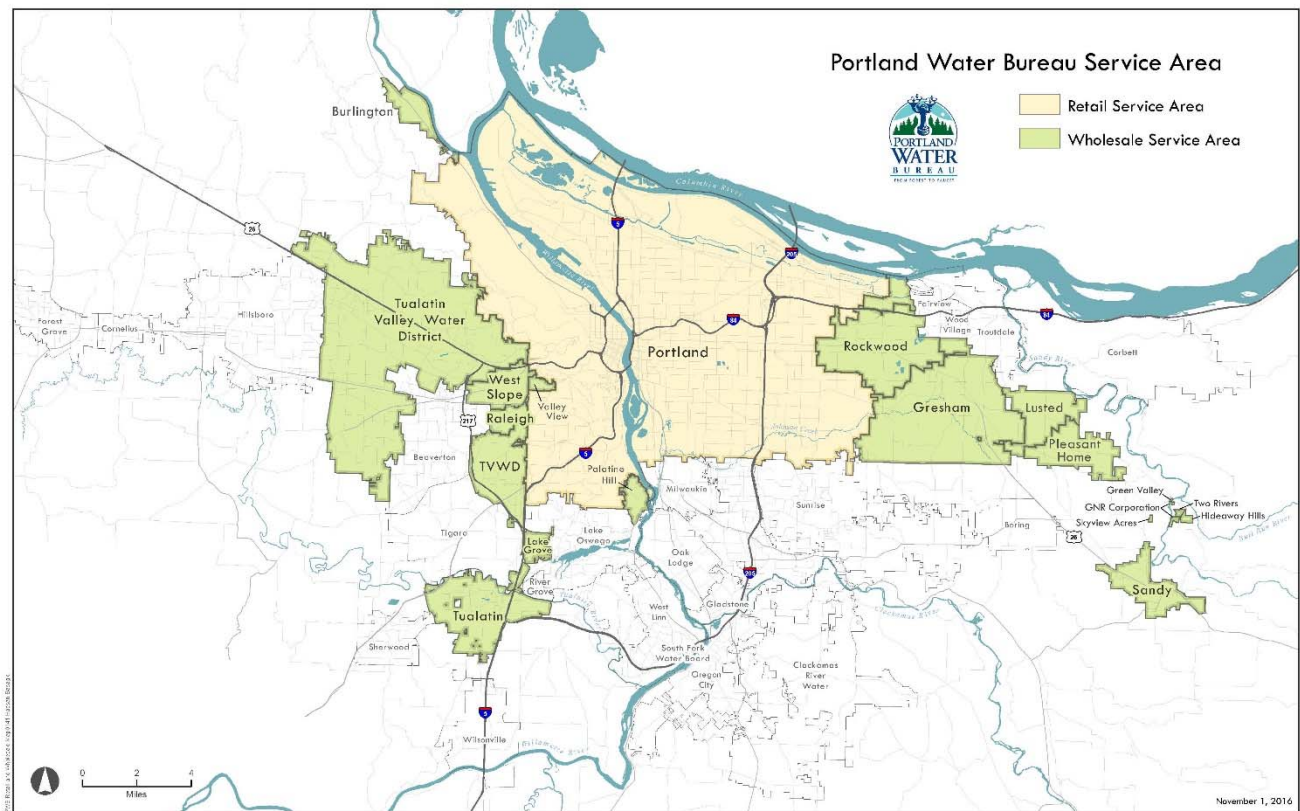


Figure 1. The Portland Water System Supply and Distribution Areas

The Bureau currently sells about 65 percent of its water as retail sales to individual accounts and approximately 35 percent on a wholesale basis to 19 cities, special districts, and private water companies. See Figure 2. Currently, the Bureau has more than 180,000 metered retail accounts. These include accounts for single-family and multi-family residential and commercial, industrial, and institutional customers. (See Table 6.) The Bureau also has long-term wholesale contracts with 13 cities and public water districts as well as 6 small private water companies. Of the 13 cities and public water districts, four have 10-year wholesale agreements and nine have 20-year agreements; the six small private water districts have contracts that renew every five years. See “WATER SYSTEM CUSTOMERS, DEMAND, RATES AND BILLING” herein.



*Figure 2. Water Bureau Retail and Wholesale Service Areas*

Water Bureau staff also review plans from developers and install water mains and customer service connections. The fees and System Development Charges from these services constitute about nine percent of the Bureau’s overall revenue. See “WATER SYSTEM CUSTOMERS, DEMAND, RATES AND BILLING—SYSTEM DEVELOPMENT CHARGES” herein.

## SUMMARY OF KEY FEATURES

The following table summarizes key features of the Water System.

**Table 6**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Water System Statistics (June 30, 2016) (1)**

Watershed Managed Storage Capacity	16.9 billion gallons
Normal Useable Capacity	9.9 billion gallons
Number of Groundwater Wells	27
Initial Groundwater Well Field Capacity	102 million gallons a day
Number of Conduits	3
Miles of Conduit Pipe	60.5
Miles of Intertie Conduit Pipe	2.5
Maximum Watershed Transmission Capacity	212 million gallons a day
Number of In-Town Terminal Storage Reservoirs	5
Number of Standpipes and Tanks	55
Total In-Town Storage Capacity	196 million gallons
Miles of Transmission and Distribution Pipe	2,190
Number of Pump Stations	37
Number of Pumps	120
Number of Accounts (2)	184,325
- Single Family Residential	153,214
- Multi-Family Residential	11,273
- Commercial and Industrial	19,813
- Wholesale	25 (3)
Number of Fire Hydrants	14,376
Number of Valves (excl. hydrant valves)	48,861
Number of Drinking Fountains	130

Notes:

- (1) Numbers are approximate.
- (2) The statistic has been changed to number of accounts. In prior reports, the statistic presented was the number of services or meters.
- (3) Although the Bureau has 19 wholesale customers, there are 33 accounts because some wholesale customers have more than one account.

Source: City of Portland.



## SOURCES OF SUPPLY

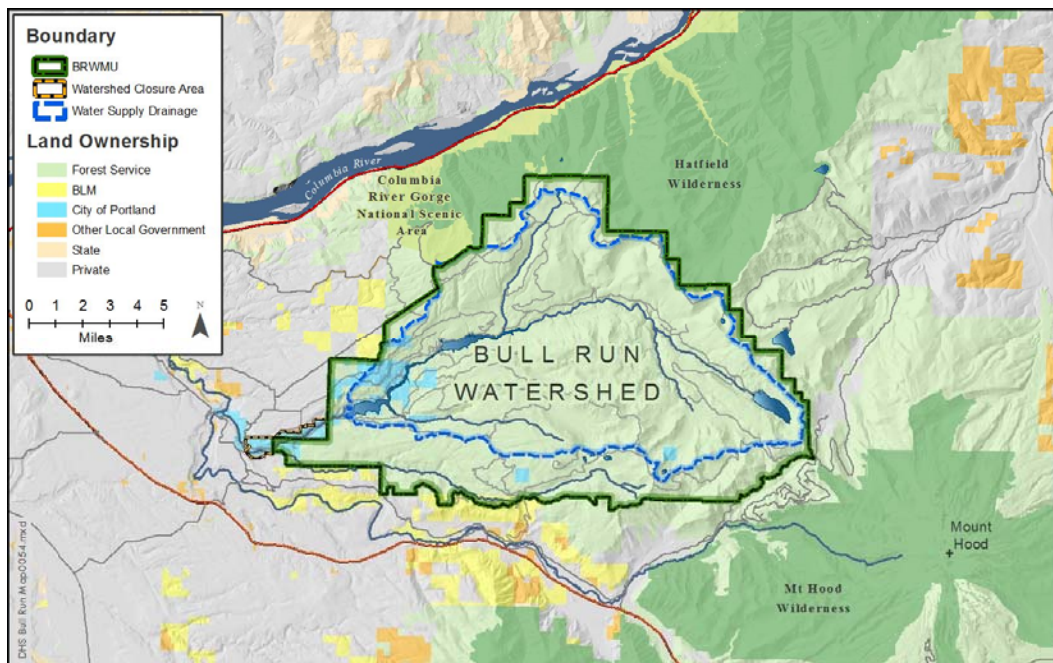
### The Bull Run Watershed

Portland's primary drinking water source is the 65,000-acre Bull Run Watershed (the "Watershed"), which lies 26 miles east of Portland in the Mt. Hood National Forest. Watershed elevations range from 750 to 4,700 feet above sea level. See Figure 3. Ninety-five percent of the lands within the Watershed are under the jurisdiction of the United States Forest Service (the "USFS"), which has primary land management responsibilities for the area. The City owns the remaining five percent of the lands.

The Bull Run Watershed Management Unit (the "Watershed Management Unit")—the 95,580-acre administrative boundary that encompasses the Watershed—is located within the Mt. Hood National Forest and is administered primarily by the USFS with two small portions of 646 acres administered by the U.S. Bureau of Land Management (the "BLM"). The City and the USFS have joint management responsibilities for the Watershed Management Unit under the statutory authority of United States Public Law ("P.L.") 95-200. This law also clarified that the primary purpose of the Watershed Management Unit is to provide a source of high-quality water for the City and its wholesale customers. Three major administrative and legislative directives issued since 1994 have significantly enhanced federal water quality protection for the Watershed:

- the 1994 Northwest Forest Plan established standards and guidelines for protecting terrestrial species dependent on old-growth forest conditions (including the northern spotted owl) and protection for aquatic habitat such as rivers and streams;
- the 1996 Oregon Resources Conservation Act, an amendment to P.L. 95-200, eliminates tree cutting within the Bull Run water supply drainage area (except when necessary for the protection or enhancement of the Water or Hydroelectric Systems); and
- the 2001 Little Sandy Protection Act, an amendment to P.L. 95-200, expanded the Watershed Management Unit boundary by 2,550 acres (including 646 acres of BLM lands) and extended tree-cutting prohibitions to the entire 95,580-acre unit.

In addition to these federal protections, City Code protections were established in February 2010 for City-owned lands within and adjacent to the western edge of the Watershed Management Unit. The City Code implements the same tree-cutting restrictions as those in place under federal law and prohibits any future development within the Watershed unless it is related to providing drinking water. The combined area protected by City Code and the federal law is the Bull Run Watershed Closure Area.



*Figure 3. The Bull Run Watershed Management Unit, Water Supply Drainage, and Closure Area*  
Map shows Closure Area boundaries, which became effective on November 8, 2014.

The Watershed currently remains an unfiltered water source by continuously meeting criteria established by the U.S. Environmental Protection Agency (the “EPA”) under the Surface Water Treatment Rule (the “SWTR”) for an unfiltered water source. In addition, in March 2012, the Oregon Health Authority granted the City a variance to the treatment requirements of the LT2 Rule. Under the terms of the variance, the City is permitted to continue using water from the Watershed without treating it to address *Cryptosporidium*, a disease-causing microorganism. The City is the only municipal water provider in the U.S. with a variance to the LT2 Rule. See “REGULATORY ENVIRONMENT—CURRENT AND EMERGING REGULATORY ISSUES” herein.

The Bull Run River is a distinctively productive water source. Water flows into the river from rain and snowmelt at an average annual daily rate of about 493 million gallons per day (“MGD”). The Watershed averages about 135 inches of rain per year. Portland, in comparison, averages about 37 inches of rain per year. At the mouth of the Bull Run River, the average annual runoff is about 180 billion gallons, which is equivalent to a water depth of 102 inches spread uniformly over the Watershed.

Within the Watershed, Reservoirs 1 and 2 store a total of 16.9 billion gallons. The reservoirs are full most of the year except for the summer months when customer demand for water is often at its highest. The City manages the reservoir to a baseline storage level to minimize water quality impacts to the overall water system. Through regular monitoring and planning, the Bureau may supplement the Bull Run supply with groundwater from the Columbia South Shore Well Field as necessary. See “Columbia South Shore and Powell Valley Well Fields” herein.

Bull Run Lake, a natural lake located at the headwaters of the Bull Run River near the eastern boundary of the Watershed, is the highest-elevation water body in the Watershed. Bull Run Lake is a limited part of the Bureau’s baseline primary and contingency resources for supply planning. Provisions of a 1997 USFS easement restrict the timing of use and requires mitigation to protect habitat affected by releases from the lake. The capacity of Bull Run Lake varies from year to year, depending on weather and water release operations. In 1998, the City obtained certification of the easement from the State of Oregon (the “State”) under Section 401 of the Clean Water Act. Bull Run Lake supplied approximately 350 Million Gallons (MG) during a 28-day study during the months of July and August 2016. The study’s information will provide data that will be a part of the discussion on the extension of the 1997 USFS easement in 2017.

#### Bull Run Co-Management with the United States Forest Service

The USFS and the Bureau have a joint management agreement describing the roles and responsibilities of each with respect to land management, resource protection and operations, and maintenance within the Watershed Management Unit. The Bull Run Watershed Management Unit Agreement provides clarity for the respective roles and expectations of the Bureau and the USFS for work planning, budgeting, and staffing. One result of this agreement was the reduction of the paved road network in the Watershed Management Unit by approximately 50 percent. As of September 2009, all of the nonessential roads have been decommissioned. The Bureau has assumed responsibility for the maintenance of the remaining road system.

The agencies are also discussing a potential land exchange. The land exchange would result in the Bureau obtaining ownership of federal lands immediately surrounding the two water storage reservoirs, the conduit right-of-way and the related road network. In exchange, the Bureau would transfer to the USFS scattered land parcels it owns that are located farther away from the reservoirs. The purpose of this land exchange is to allow the Bureau to own contiguous parcels of property where Bureau facilities are located. The land exchange would also provide the Bureau with increased regulatory certainty on permitting issues associated with water storage and transmission in the Watershed. Initiated by a joint agreement between the City and the federal government in 2010, the federal land exchange process is expected to be completed sometime in 2018.

The Bureau coordinates with the USFS and the Oregon Department of Forestry to ensure that the Watershed remains a top priority for wildland fire protection in the region. A joint fire management plan is updated annually among the entities. The Bureau works closely with its state and federal counterparts to support their lead role in detection and suppression efforts. The Bureau reports on the status of fire-protection readiness and any fires detected in its Annual Watershed Control Program Report for each water year.

#### **The Columbia South Shore and Powell Valley Well Fields**

##### The Columbia South Shore Well Field

The Columbia South Shore Well Field (the “CSS Well Field”), completed in the 1980s, is the second-largest developed water supply in Oregon after the Bull Run Watershed. This groundwater supply provides both a means to augment the Bull Run source during the peak summer season and an emergency backup water source, should the Bull Run supply be interrupted due to a weather-related or other event. See “SYSTEM PLANNING AND OPERATIONS—Water Supply Operations” herein. The



Bureau currently operates the CSS Well Field each summer to identify maintenance needs and ensure that groundwater equipment is operational.

The CSS Well Field, which includes 27 operating wells, is located along the Columbia River east of the Portland International Airport. The production wells have an initial total capacity of more than 100 MGD and a long-term total capacity of approximately 85 MGD. The City has an estimated additional 200 MGD of undeveloped water rights capacity in the CSS Well Field. In 2009, the State's Water Resources Department granted final orders for extensions to the four primary water rights in the CSS Well Field to 2085. Over time, the Bureau anticipates constructing infrastructure to use some of the undeveloped CSS Well Field capacity to meet long-term water demand. There are currently no projects in the Bureau's Five-Year Capital Improvement Plan to create additional well field capacity.

The CSS Well Field produces water that consistently meets or surpasses all health-based quality standards for drinking water set by State and federal regulations. Approximately 65 percent of the CSS Well Field supply capacity comes from deep aquifers that are naturally protected from shallow near-surface contamination by rock layers up to several hundred feet thick called confining units. An additional 35 percent of the well field supply comes from a highly productive shallower aquifer that is located within a regional park. This shallow aquifer is protected from commercial or industrial development. Groundwater produced from the CSS Well Field is treated with hypochlorite and ammonia for disinfection.

The City has an active Wellhead Protection Program which is certified by the Oregon Department of Environmental Quality (the "ODEQ") as addressing State requirements for protecting this groundwater resource. The program has been in place since 1987. The Wellhead Protection Program was developed cooperatively with the adjacent cities of Fairview and Gresham, along with input from local residents and representatives of commercial and industrial businesses located within the protection zone. The protection program includes regulations on the use, handling, storage and transport of certain chemicals; educational outreach; technical assistance; an inspection program for businesses; and recommended best-management practices for spill control and storm water management. This program's overall goal is to protect groundwater resources by preventing chemical spills that could seep into the ground and adversely affect groundwater quality.

The Bureau operates an extensive groundwater monitoring program with about 100 monitoring wells to protect the well field. Bureau staff conduct ongoing routine monitoring of groundwater levels and water quality in multiple aquifers throughout the well field and adjacent areas. The Bureau also uses a state-of-the-art groundwater flow model to simulate and predict groundwater flow in multiple aquifers under static and pumping conditions. To further ensure that the City's wells continue to produce high-quality drinking water into the future, the Bureau works cooperatively with the ODEQ to identify, assess, and clean up soil and groundwater contamination sites in and near the well field. Although a few groundwater contamination sites are present in and near the well field, none of the City's production wells are affected. By agreement, the ODEQ expedites the assessment and clean-up of sites in order to minimize potential risks.

#### Powell Valley Well Field

The Powell Valley well system, acquired by the City in 2005 from Powell Valley Road Water District ("PVRWD"), includes six wells in two aquifers. PVRWD customers were connected to the City's distribution system. The City currently has ample water supply to serve its customers and does not need to utilize these wells. These wells are currently designated as an emergency supply source. Various capital projects are being evaluated to improve booster pump capacity and treatment and to build new mains to fully integrate these wells into the Water Bureau supply system.

### **EFFECTS OF CLIMATE CHANGE ON SUPPLY**

The 2014 National Climate Assessment from the U.S. Global Change Research Program indicates the potential for warmer and drier summers, lower summer stream flows, and an increase in the number and intensity of extreme precipitation events in the Pacific Northwest Region.

Two key characteristics increase the resilience of the Portland water supply to climate change effects. The Watershed is situated at relatively low elevations in the transient snow zone. This means that, the Bull Run water supply is not reliant on snowpack for spring season stream flows. Future decreases in annual average snowpack are currently anticipated to have a relatively minor effect on annual average spring flows and reservoir levels. In addition, the Bureau's previous investment in the CSS Well Field and its ability to expand the well field capacity incrementally over time provide a robust supplemental supply to offset the potential impacts of climate change on the Bull Run stream flow or increases in summer season water demand.

The Bureau has invested in dedicated staffing and technological tools to continue to monitor and plan for the anticipated impacts of climate change on the water system. The Bureau is incorporating its understanding of climate change risks into its upcoming major long-term planning efforts including the Supply System Master Plan and the next update to its Water Management and Conservation Plan.

## **TREATMENT, TRANSMISSION, STORAGE, AND DISTRIBUTION**

Because of the high quality of the Bull Run source, the exemption from the filtration requirements of the SWTR, and the variance from the treatment requirements of the LT2 Rule, the current treatment requirements for Bull Run water are much more limited than treatment requirements for most other large water suppliers that depend on surface water. See “REGULATORY ENVIRONMENT—CURRENT AND EMERGING REGULATORY ISSUES” herein. The Bureau’s current Watershed treatment includes chlorine disinfection of the raw water immediately downstream of the water intake at the Headworks facility at Dam 2. Water leaving Headworks is continuously monitored for chlorine levels. Aqueous ammonia is added to the water 10 miles downstream at the Lusted Hill Treatment Facility to form chloramines. The Lusted Hill Treatment Facility also includes corrosion treatment using ammonium hydroxide to comply with the EPA’s Lead and Copper Rule.

Bull Run water flows by gravity from the Headworks facility at Dam 2 through three large-diameter pipeline conduits. The conduits carry water first to the Lusted Hill Treatment Facility then to two 50-million-gallon terminal storage reservoirs on Powell Butte in east Portland.

Between the Watershed and Powell Butte, there are several interties on the conduits. These interties provide the capability of remotely redirecting flows and limiting the quantity of water discharged in case of an emergency such as a break, leak, or shutdown of a conduit. The Bureau has further reduced conduit vulnerability by strengthening the bridges that carry the three large pipes and enclosing previously exposed sections in tunnels or underground casings. These recent changes reduce the risks from potential landslides or floods and ensure that the conduits can carry enough Bull Run water for current demands. Operation of the conduits is modified each season to produce the best possible water quality. The water storage facilities within the distribution system consist of five large terminal storage reservoirs and 55 smaller standpipes and tanks, with a total storage capacity of more than 196 million gallons. Water flows from the Powell Butte Reservoirs to the three other terminal storage reservoirs through large-diameter mains or directly through the Washington County Supply Line. Six active Willamette River crossings (including the Washington County Supply Line) supply the Bureau’s west-side customers. Most supply delivery is accomplished through gravity feed from the conduits and terminal reservoirs; however, pumping facilities are used to supply all high-elevation areas of the Bureau’s service areas and to provide groundwater from the Columbia South Shore Well Field.

The transmission and distribution system is constructed of cast iron, ductile iron, and steel piping with nearly 90% in good condition with an expected remaining life before replacement of 50 to 200 years, depending on pipe materials and environmental conditions. Valves in the system control the flow of water during repairs, maintenance, or improvements. Fire hydrants on the distribution network allow fire fighters to connect to and pump water if needed. Meters at all customer connections record water flow. The Bureau also owns and maintains drinking fountains located throughout Portland.

The Bureau’s supply and distribution system is constantly monitored by staff and controlled at the Water Control Center located at the Bureau’s Interstate Maintenance Facility. The original computer-based Supervisory Control and Data Acquisition System (“SCADA”) was completed in 1991 to provide monitoring and control for Bureau facilities from a central location. The Bureau completed its third upgrade to the SCADA system in 2013. The upgraded SCADA system provides advanced remote site control of the system and increased reliability.

## **SYSTEM PLANNING AND OPERATIONS**

### **System Planning**

The Water Bureau has incorporated industry best practices into system planning and operations. In 2008, Bureau management articulated strategic goals and objectives that support the organization’s overall vision and mission. Since then, the Bureau has developed performance measures to track and improve performance. This shift has catalyzed changes in many Bureau processes and programs, including risk assessment, benefit and cost estimating, data-sharing, project management, field operations and reporting, and asset maintenance. The Bureau has a strong commitment to continuous improvement.

Major objectives of the Bureau are to make good investment decisions, manage risks, and minimize the total life-cycle costs of its assets. The underlying principle of asset management is to combine operating data, engineering knowledge, economic analyses, and business guidance to support strategic system investments. The Bureau’s Asset Management Program supports the goal of

ensuring the longest possible useful asset lives as well as the most practical replacement strategies. Since the Asset Management Group was formed in 2004, it has provided the Bureau with a framework for strategically analyzing and addressing risks, provided formal project evaluations and program benefits and costs to support decision-making, recommended operational improvements that result in greater efficiencies, and supported intelligent business systems such as providing mobile handheld technology for field staff. Asset Management staff have completed asset management plans for assets throughout the system. Through asset management, the Bureau has been able to improve its ability to focus on critical assets and select the most effective mix of maintenance, repair, renewal, or replacement.

The Bureau has a number of long-range plans to address the rehabilitation and long-term regulatory requirements of the water supply system. These include the Infrastructure Master Plan (2000), the Distribution System Master Plan (2007), the Bull Run Habitat Conservation Plan (2008), the Water Management and Conservation Plan (2010), and various subsystem master plans and project-specific planning documents. The Bureau's efforts are also guided by the City's capital system plan which is part of the City's Comprehensive Plan, a long-range 20-year plan that sets the framework for the physical development of Portland. The Bureau is also completing a 2-year seismic study of the water system in order to respond and prepare for a Cascadia Subduction Zone Magnitude 9.0 earthquake. This study is in response to the Oregon Resilience Plan that seeks improvements in the man-made environment within the next 50 years to help communities and the State prepare for the major seismic event that is expected to occur in the near future. Once this study complete, additional projects will be identified and developed to further strengthen the water system. The Bureau is starting work on a System Supply Master Plan to identify the long term needs for water supply, storage, and transmission systems. The plan is scheduled to be completed in 2020. In addition, the Water Management and Conservation Plan will be updated by 2020.

The Bureau is also part of the Regional Water Providers Consortium (the "Consortium"). Consortium members collaborate on water supply planning, water conservation media messaging, and emergency preparedness. The Consortium operates with an elected Board, an Executive Committee, and Technical Advisory, Conservation, and Emergency Preparedness committees. The Consortium currently includes 20 water providers and Metro (a regional government agency). The Consortium is jointly financed and operates under an annually approved work plan and budget administered by the City through a staffing intergovernmental agreement.

## **Water Supply Operations**

For most of the year, the Bureau meets 100 percent of customers' water demands from the Bull Run source. During the peak summer season (typically mid-June through mid-September), the Bureau can rely on the Columbia South Shore groundwater source as augmentation if necessary. Each year since 1992, a cross-functional Bureau team prepares a seasonal Water Supply Augmentation and Contingency Plan (Summer Supply Plan) that includes contingency planning for both the Bull Run and the Columbia South Shore supplies. The team considers available water supplies, weather predictions, past and projected water demands, the impacts of regional water-efficiency programs, and other factors to create operational strategies for the upcoming summer season. The plan includes triggers and implementation criteria under different forecast scenarios as well as a pre-agreed list of supply-augmentation and demand-reduction options. The operational strategies are continuously updated throughout the summer, as warranted by weather, water demand, and/or changes in supply availability. During intermittent winter storm events that render the Bull Run unusable, the Bureau can switch sources and use groundwater as a redundant backup water supply.

The Bureau is equipped to continue normal uninterrupted water service during a widespread power outage. Water flows by gravity from the Watershed to Powell Butte and to most of the distribution system. Backup generators can maintain current treatment processes. Within the distribution system, the Bureau stores water in amounts appropriate for the current needs, which include demand levels, fire use, and emergency needs. Permanent or mobile power generators and/or water pumpers are available as backups for the pump stations (most of which are located on Portland's west side) and for the Water Control Center.

The Bureau has an Emergency Operation Center and Emergency Management Program located in the City's Emergency Coordination Center (the "ECC") to help ensure a timely response to a severe or catastrophic event. From the ECC, the Bureau's Emergency Manager can assist the Incident Command System personnel in planning and coordinating actions during emergencies. Many Bureau employees are certified in the National Incident Management System. The SCADA system, which monitors and manages the transmission and distribution system, has a fully redundant remote facility in case of failure at the Interstate facility.

## **BULL RUN WATERSHED HYDROELECTRIC POWER GENERATION**

The City owns two hydroelectric powerhouses in the Watershed. The powerhouses are part of the Portland Hydroelectric Project (the "PHP"). The PHP's facilities consist of a powerhouse with a 24-megawatt (36,000 horsepower) turbine/generator below Dam 1, a powerhouse with a 12-megawatt (16,000 horsepower) turbine generator below Dam 2, and 10 miles of power transmission lines to connect the powerhouses with the Portland General Electric ("PGE") system grid. Constructed between 1979 and 1982,

the two powerhouses are physically operated and maintained by PGE personnel as a condition of the power sales agreement between the City and PGE. The total annual power generation from these facilities has averaged about 85,500 megawatt-hours over the last 34 years of operation but varies from year to year based on the actual amount and distribution of rain and snowmelt filling the reservoirs in the Watershed.

The PHP's powerhouses are operated under a license from the Federal Energy Regulatory Commission (the "FERC"), under permits from the USFS and the Oregon Water Resources Department, and under a certification from ODEQ that PHP operations comply with Section 401 of the Clean Water Act. The PHP's FERC license boundary encompasses the two powerhouses, the transmission lines, Dam 1, Dam 2, and their respective reservoirs. PHP staff complies with the requirements of the FERC's dam safety program. As a part of that work, staff periodically perform dam safety inspections and stability analyses and prepare and test emergency action plans. Both the FERC license and the USFS permit explicitly state that power generation is secondary to the function of supplying drinking water. These documents further restrict the PHP from varying the water levels in the City's two major water supply reservoirs more than two feet below their respective dam spillway crests solely for hydropower generation purposes with certain exceptions. The FERC license and USFS special-use permit for hydropower facilities expire in 2029.

The current power sales agreement with PGE expires in August 2017. The existing agreement, signed 35 years ago, covered operations, maintenance, power transmission and power sales. PGE provided all these services under this agreement. PGE is now only interested in purchasing the power from the City. PGE and the City are currently in negotiations to develop a new power sales agreement. The provision of operations, maintenance and power transmission will be handled by separate third party organizations. The City is currently soliciting proposals from third party organizations to provide these services.

The PHP facilities and its associated revenues and expenses are accounted for under its own City fund structure. The PHP's funds and revenues are excluded from the Water System and its associated accounting under the Master First Lien Bond Declaration and the Master Second Lien Bond Declaration.

## **REGULATORY ENVIRONMENT**

### **OVERVIEW**

As a public water system, the Bureau's provision of drinking water is federally regulated predominantly under the 1974 Safe Drinking Water Act through the EPA. In Oregon, the EPA has delegated administration and enforcement of the Safe Drinking Water Act regulations to the Oregon Health Authority Drinking Water Services (the "OHA"). The OHA also establishes and enforces its own regulations for public water systems under Chapter 333 of the Oregon Administrative Rules. As previously described, the City's primary water source, the Watershed, is located primarily on United States Department of Agriculture National Forest System land. The Watershed Management Unit is co-managed by the USFS and the City under P.L. 95-200 and other relevant laws and regulations that are applicable to federal lands.

Federal environmental statutes that affect Water System operation include the Clean Water Act and the Endangered Species Act. In Oregon, the EPA has delegated the authority to administer and enforce Clean Water Act issues to ODEQ. Issues related to the Endangered Species Act are administered and enforced by two federal agencies, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the "NMFS").

Federal regulation of the safety and operations of the Bull Run dams is under the jurisdiction of the FERC. See "THE WATER SYSTEM—BULL RUN WATERSHED HYDROELECTRIC POWER GENERATION" herein.

### **THE SAFE DRINKING WATER ACT**

In 1974, Congress initially adopted comprehensive legislation for drinking water supplies in the Safe Drinking Water Act (the "SDWA"). Since then, the original legislation has been significantly revised and expanded twice, first in 1986 and again in 1996. Regulations, called rules, arising from this legislation address a range of health concerns and issues including (but not limited to) chemical and microbial contaminants, operator certification, disinfection and treatment practices, source water protection, and consumer information requirements. The first wave of new regulations resulting from the 1996 amendments to the SDWA are largely in place at this time, but the EPA anticipates an ongoing process through much of the early part of this century to fully realize the intent of Congress in the 1996 revisions. The Water System is in compliance with all currently enacted regulations under the SDWA as well as those imposed by the OHA.

The Total Coliform Rule ("TCR"), one of several regulations under the SDWA requires monitoring for coliform bacteria, which serve as an early warning system for detecting conditions favorable to waterborne pathogens. Under the State-approved coliform monitoring plan, the Bureau collects and analyzes between 240-260 samples per month for coliform bacteria. As part of this ongoing monitoring, over the past five years, there have been two widespread drinking water advisories issued by the City for customers to boil their water due to bacterial contamination.

An advisory was issued in July 2012 from a TCR violation and resulted in boil water notices to approximately 100,000 customers. Another advisory, issued in May 2014, was not a violation of the TCR, but as a precaution the State determined that a boil water notice was required. The notice affected approximately 670,000 customers. Both notices were rescinded within 24 hours of issue. No cases of illness were linked to any of the drinking water advisories, and follow-up investigations were unable to specifically identify the source of contamination.

In addition to widespread boil water notices as a result of bacterial contamination, between July 2011 and June 2016, the Bureau issued eight precautionary advisories to individual customers to boil their water after a loss of pressure at their service connection. These advisories are a best management practice, for utilities issued as precaution against possible bacterial infiltration as a result of pressure loss. All bacterial tests taken after pressure was restored showed no detections for bacteria.

### **CURRENT AND EMERGING REGULATORY ISSUES**

Portland's water meets or exceeds the many regulatory standards in place to protect public health. The rules enacted as a result of amendments to the SDWA have required that the Bureau invest in programs and infrastructure to comply. Most recently, the effort to comply with two separate requirements of the LT2 Rule have resulted in a comprehensive Watershed compliance program (Bull Run Treatment Variance) and replacement of some of the Bureau's largest capital assets, its five uncovered terminal reservoirs. As described earlier, the Bureau continues to maintain an exemption from the SWTR requirement for systems to filter surface water sources of supply.

## **Compliance with the LT2 Rule**

In January 2006, the EPA issued the LT2 Rule. The purpose of the LT2 Rule, according to the EPA, is to “reduce illness linked with the contaminant *Cryptosporidium* and other disease-causing microorganisms in drinking water.” The regulations articulated in the LT2 Rule affect both the Treatment and Transmission and Terminal Storage programs.

### Requirements for Treatment

The LT2 Rule requires water systems using surface water as a source to provide treatment to remove or inactivate *Cryptosporidium*. A provision of the SDWA enables water systems to request variances to such treatment requirements if the system can demonstrate that due to the nature of its raw water source the required treatment is not necessary to protect public health. The City made a request for an LT2 Rule treatment variance to the OHA in June 2011. The OHA granted the City’s variance request in March 2012 based on the data the Water Bureau provided demonstrating the low risk from *Cryptosporidium*, the legal protections for the Watershed, and the level of Watershed controls provided by the current management agreements and policies. Currently, Portland is the only water system granted a treatment variance. The variance went into effect on April 1, 2012, and will be in effect for ten years as long as the City is able to meet a set of conditions designed to protect the health of Portland drinking water customers. The conditions require the Bureau to continue to regularly monitor Bull Run source water for *Cryptosporidium* at the water supply intake, maintain all legal protections in the Watershed, and monitor and manage any potential sources for *Cryptosporidium* contamination in the Watershed. If the City experiences multiple detections of *Cryptosporidium* during the prescribed monitoring program required in the variance conditions, the OHA has indicated it will revoke the variance. There have been no detections of *Cryptosporidium* at the intake since the variance was granted.

### Requirements for Uncovered Finished Drinking Water Reservoirs

The LT2 Rule also requires changes to how uncovered finished drinking water reservoirs are utilized, managed, or operated. The rule requires that water systems with uncovered finished water reservoirs, such as those at Mount Tabor and Washington Park, cover the reservoirs or provide treatment at the outlets of the reservoirs to inactivate *Cryptosporidium*, *Giardia* and other pathogens. The EPA and the OHA have each separately indicated to the City that there is no variance option for compliance with the uncovered drinking water reservoir requirement.

In April 2009, the EPA approved a plan for bringing the City into compliance with the uncovered storage requirements of the LT2 Rule. The plan included constructing a second enclosed 50-million-gallon storage reservoir at Powell Butte, increasing the storage capacity at Kelly Butte to 25 million gallons, replacing Washington Park Reservoir 3 with a 15-million gallon covered tank, and constructing transmission pipes and other system improvements. The deadlines in the plan to disconnect Mount Tabor and Washington Park uncovered reservoirs from the drinking water system are December 31, 2015, and December 31, 2020, respectively. The Mount Tabor reservoirs are now disconnected from the water system and the Bureau continues to move forward to complete the necessary projects at Washington Park to comply with the December 31, 2020, deadline. See “CAPITAL IMPROVEMENT PROGRAM—CAPITAL PROGRAMS AND PROJECTS—Transmission and Terminal Storage” herein.

## **Compliance with Filtration Exemption Requirements**

The federal SWTR and the Oregon Administrative Rules require unfiltered water systems with filtration avoidance exemptions to perform annual reporting of the system’s Watershed control programs. The controls in place for the Watershed include strict limitations on access and entry; security staff, resources, and protocols; active fire protection and suppression measures and resources; water-quality protection controls on construction projects; and requirements for hazardous materials spill prevention and remediation. The filtration avoidance exemption also requires that all raw water entering the drinking water treatment system remain below five Nephelometric Turbidity Units (“NTU”). The mechanism the Bureau uses to continuously achieve the turbidity standard is to shut down the Bull Run supply when turbidity levels are rising, well before the five NTU standard is reached. The Bureau then switches to groundwater from the CSS Well Field backup supply. The Bureau monitors and reports on its Watershed control program annually. See “THE WATER SYSTEM—SOURCES OF SUPPLY—The Columbia South Shore and Powell Valley Well Fields” herein.

## **Lead and Copper Rule**

In 1991, EPA published the Lead and Copper Rule (the “LCR”) to control lead and copper in drinking water. As a result, in 1997, Portland installed additional treatment at the Lusted Hill Treatment Facility to control corrosion by increasing the pH of the water. Because lead-based paint is the most significant source of lead in the Portland area, the City meets the requirements of the LCR with a comprehensive lead education, outreach, testing and remediation program, the Lead Hazard Reduction Program (the

“LHRP”). In 1997, the OHA approved the LHRP as the optimal corrosion control treatment. This program is comprised of four components:

- Corrosion Control Treatment – Adds sodium hydroxide to increase pH and reduce the presence of lead in tap water;
- Lead in Water Education and Testing – Provides free lead in water testing to all customers in the Bull run service area;
- Education and Outreach for all sources of lead exposure – Raises awareness of all potential sources of lead, focusing on highest risk to children through trainings, workshops, and community events; and
- Lead paint remediation – Provides in-home risk assessments and lead hazard reduction measures through a partnership with the Housing Bureau’s Lead Hazard Control Grant Program.

Lead in drinking water in the Portland area is primarily a result of household plumbing materials, especially when built or plumbed between 1970 and 1985 with copper pipes and lead solder. Lead service lines, which are the pipes that connect the drinking water mains in the streets to homes and buildings, were never used in the Portland area. Prior to 1940, lead pigtails, short two- to three-foot pipes connecting galvanized service lines to the water main, were used on some services. By 1998, the Bureau completed the removal of more than 10,000 lead pigtails, removing all known lead from the distribution system. In addition, from 2001 to 2008, the Bureau worked to replace large meters with lead components serving schools, hospitals, childcare facilities, community centers, public housing complexes and large apartment buildings.

The LCR requires water systems to monitor drinking water at customer taps in Tier 1 homes (homes known to contain lead in plumbing). A joint monitoring plan with 13 wholesale customers is in place to perform sampling every six months at more than 100 homes within the Bull Run service area. For lead concentrations exceeding an action level of 15 parts per billion or copper concentration exceeding an action level of 1.3 parts per million in more than 10 percent of customer taps sampled in Tier 1 homes, a system must undertake a number of additional actions to notify and educate the public. In 2013, the City recorded an exceedance of the LCR when a total of 13 homes in the service area were above the action level for lead. In Fall 2016, the sampling of Tier 1 homes showed 14 of the high risk homes tested were above the action level for lead.

In 2014, in anticipation of the changes to the Water System with the disconnection of uncovered reservoirs, the Bureau began a water quality corrosion control study. The Bureau is also evaluating further treatment options and an evaluation of the LHRP will be conducted by Program Design and Evaluation Services (“PDES”), a partnership between the OHA and Multnomah County Health Department, during FY 2016-17. The water quality corrosion control study and PDES report are expected in 2017. Also, the City is developing recommendations for further lead exposure reductions for City Council consideration in Spring 2017.

The City has been working with the Oregon Health Authority (“OHA”) to further reduce lead in drinking water at customers’ taps in Portland. OHA has concurred with the City’s corrosion control treatment improvement schedule. The schedule includes completing an improved corrosion control treatment facility by 2022. The City is working to develop an interim plan for immediate steps to reduce lead in drinking water. The plan will be submitted to OHA in early December 2016.

On a national level, the EPA is currently considering Long-Term Revisions to the Lead and Copper Rule to improve public health protection by making substantive changes and to streamline the existing rule requirements. The City cannot currently anticipate the outcome of the rule or the impacts to the Water System operation, if any. Therefore, the financial forecast does not include any potential financial impacts related to changes to the LCR.

## **ENVIRONMENTAL REGULATIONS AND COMPLIANCE PLANS**

The City is also subject to environmental regulations and statutes administered by a variety of state and federal agencies. The 1972 Clean Water Act (the “CWA”) addresses discharges into the nation’s waterways. The CWA is administered and enforced in Oregon by the ODEQ. The 1973 Endangered Species Act (the “ESA”) addresses activities that have the potential to threaten species listed as endangered or threatened by two federal oversight agencies, USFS and NMFS.

### **Bull Run Habitat Conservation Plan**

The Bureau’s 2009 Bull Run Habitat Conservation Plan (the “HCP”) is the most significant of its environmental regulatory compliance plans currently in place. The HCP describes the City’s obligations to improve fish habitat as a condition of operating the Bull Run water supply system. The HCP was approved and an Incidental Take Permit was issued by the NMFS in April 2009.

In response to federal listings of salmon and steelhead in the lower Columbia River region, the Bureau took a lead role in establishing a partnership of public and private organizations—now called the Sandy River Basin Partners—with a common objective of fish habitat conservation and restoration in the Sandy River Basin. In coordination with these partners, the City prepared a comprehensive HCP, as provided for in Section 10 of the ESA, to meet the City’s obligations for the Bull Run system.

The HCP also includes measures to address the City’s obligations to manage water temperature under related CWA requirements as administered by ODEQ. The ODEQ subsequently approved the HCP Temperature Management Plan. A recent court decision may have an effect on future implementation of the Temperature Management Plan. See “LITIGATION” herein.

The HCP’s package of regulatory commitments provides reasonable certainty for the Bureau to operate its water supply facilities in the Watershed in compliance with the federal CWA and ESA through 2060. Implementation of the 49 measures included in the Bull Run HCP has begun, and the Bureau reports on progress annually to NMFS and to ODEQ. The Bureau continues to operate in conformance with the regulatory guidelines of its permits and guidance by NMFS and ODEQ.

### **Portland Harbor Sediments**

In December 2000, Portland Harbor was listed as a federal Superfund site. The Superfund program was established under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (as amended). Because the Bureau owns land and operates facilities within the Portland Harbor Investigation area, the Bureau may be liable for a portion of the cleanup and restoration activities, as well as costs for restoration of natural resources. See “LITIGATION” herein.



## WATER SYSTEM CUSTOMERS, DEMAND, RATES AND BILLING

### OVERVIEW

The Bureau has both retail and wholesale water customers. Retail use constitutes about 65 percent of all water use in a given year; wholesale water use is the remaining 35 percent.

### RETAIL WATER CUSTOMERS

Currently, the Bureau has more than 184,000 metered retail accounts. These include accounts for single-family and multi-family residential, commercial, industrial, and institutional customers. This represents more than half of the population in the Portland metropolitan area across Multnomah, Washington, and Clackamas counties.

**Table 7**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Historical Number of Accounts**

<b>Fiscal Year Ending June 30</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>
<b>TOTAL RETAIL CUSTOMERS (1)</b>	180,600	182,950	183,175	183,300	184,300
<b>WHOLESALE CUSTOMERS</b>					
Tualatin Valley Water District	58,598	59,110	59,833	60,550	61,684
Rockwood Water PUD	13,234	13,257	13,221	13,417	13,420
Gresham, City of	16,866	18,617	16,668	16,789	16,691
Tualatin, City of	6,650	6,753	6,689	6,384	6,872
Tigard, City of (4)	18,265	18,496	18,678	18,535	18,821
West Slope Water District	3,236	3,331	3,308	3,310	3,200
Raleigh Water District	1,006	1,006	1,008	1,008	1,004
Palatine Hill Water District	604	607	607	603	598
City of Sandy (2)	-	-	3,508	3,608	3,703
Lake Grove Water District	1,270	1,211	1,218	1,327	1,267
Valley View Water District	379	381	381	383	384
Pleasant Home Water District	545	570	545	546	550
Lusted Water District	410	407	409	410	409
Burlington Water District	118	113	113	113	113
Six private water companies (3)	213	213	209	207	207
<b>Total Wholesale Customers</b>	121,394	124,072	126,395	127,190	128,923
<b>Grand Total</b>	301,994	307,022	309,570	310,490	313,223

Notes:

- (1) In FY 2011-12, the number of retail customers was changed to number of accounts. In the prior years, the number of services or meters was reported.
- (2) The City signed a contract with the City of Sandy for water delivery beginning in FY 2013-14.
- (3) Six private water companies include GNR Corporation, Green Valley Water Company, Hideaway Hills Water Company, Lorna Portland Water LLC, Skyview Acres Water Company, and Two Rivers Water Association.
- (4) The City of Tigard Regional Water Sales Agreement terminated on June 30, 2016.

Source: City of Portland. Totals may not add due to rounding.

Approximately 41 percent of all of the Bureau's retail water sales are to single-family residential customers; 17 percent of sales are to multi-family residential customers; and 42 percent of sales are to commercial, industrial, and institutions. As of fiscal year ending June 30, 2016, residential accounts make up the majority of the approximately 184,000 water accounts. Commercial accounts total approximately 19,700 (including 3,600 fire line accounts) water services. In addition to water service accounts, there are more than 6,000 sewer-only accounts, most of which are billed bi-monthly.

Table 8 shows the top ten retail users and revenues for FY 2015-16.

**Table 8**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Major Retail Users for Fiscal Year 2015-16**

<b>Retail Commercial Users</b>	<b>Annual Usage (ccf)<sup>(1)</sup></b>	<b>% of Annual Usage (ccf)<sup>(1)</sup> to Total Retail</b>	
		<b>Customers</b>	<b>Revenue</b>
Siltronic Corp.	480,121	1.9%	\$1,883,081
City of Portland, Bureau of Parks	385,452	1.5	1,397,468
Oregon Health and Sciences University	283,654	1.1	1,141,933
Darigold, Inc.	172,456	0.7	678,790
Port of Portland	169,847	0.7	720,219
Precision Castparts	168,961	0.7	670,081
Evraz, Inc.	136,052	0.5	537,025
Portland Public Schools	127,805	0.5	626,786
Portland State University	120,402	0.5	523,717
Ajinomoto Frozen Foods USA, Inc.	105,288	0.4	419,292

Notes:

(1) "CCF" means centum cubic feet or 100 cubic feet.

Source: City of Portland.

## WHOLESALE WATER CUSTOMERS

The Bureau currently provides water on a wholesale contract basis to 19 water purveyors, which include cities, water districts, and private water companies. Annual water sales to wholesale customers account for about nine to 12 percent of annual water sale revenues. Wholesale customers pay based on their use of the system in accordance with contract terms.

Between 2006 and 2009, the City entered into new wholesale contracts with 14 cities and public water districts. These 14 contracts constitute more than 99 percent of the Bureau's wholesale water sales. Of the 14 wholesale contracts, five customers have 10-year contracts and nine customers have 20-year contracts. The remaining wholesale customers are six small private water companies, with contracts that renew every five years.

A significant feature of the wholesale agreements is the guaranteed supply and payment provisions. In exchange for the Bureau's guarantee of a predetermined water supply to each wholesale customer, the wholesale customers will pay for those annual quantities on a take-or-pay basis during the contract period. This provision means that the Bureau's wholesale revenues are considerably more stable and not subject to adverse demand fluctuations due to weather, economic downturns, or other factors for the duration of the contracts. The only variation in revenues due to demand would occur from mutually agreed-upon sales beyond the take-or-pay quantities or from changes in the ratio of peak-to-average demands of the users. The City currently has ample water supply to meet all obligations to deliver water as required by wholesale agreements and to supply its retail customers.

Wholesale customers must give five years' notice of non-renewal. Either party may give a written notice of non-renewal and can do so at any time during the last five years of their respective contracts. If such a notice is issued, the contract will terminate on the next June 30 at least five years but not more than six years from the date of the notice. If neither party gives notice of non-renewal during the last five years of the respective contracts, the contract will continue for another ten years. If the contracts are renewed, then the contracts shall also be repeatedly renewed for ten year intervals, and every ten years thereafter, unless one of the parties gives a notice of non-renewal during the second five years of each ten-year renewal period. The City of Tigard was the only wholesale customer with a 10-year agreement that provided a non-renewal notice in FY 2010-11, therefore, their agreement terminated on June 30, 2016. The remaining four wholesale customers with 10-year agreement will continue through June 30, 2026.

The 20- and 10-year agreements are virtually identical except that the 10-year agreement customers pay a higher rate of return to the City in exchange for the ability to elect not to renew their contracts at an earlier date. Tualatin Valley Water District (TVWD) is partnering with the City of Hillsboro to develop an alternative source of supply from the Willamette River. But with the renewal of their agreement, the west-side wholesale customers will continue to purchase water from the City for at least another 10 years. When the alternative source of supply is developed, wholesale customers may opt to utilize the new source of supply and reduce or even eliminate purchases from the City. However, TVWD has indicated that even after development of their alternative source of supply, it may continue to purchase water from the City, albeit at reduced quantities.

The amount of revenue to be generated from wholesale customers under these contracts is guaranteed to be about \$17.2 million in FY 2016-17, based on the take-or-pay provisions in the contracts and the guaranteed water quantities requested by each wholesale customer. Table 9 shows guaranteed purchase quantities, percent of sales, rates, and guaranteed revenues from each wholesale customer for FY 2016-17.

**Table 9**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Purchase Quantities and Guaranteed Revenues for Wholesale Customers, FY 2016-17**

<b>Wholesale Customer</b>	<b>Earliest Date for Contract Termination</b>	<b>FY 2016-17 Guaranteed Purchase Quantities (million ccf)</b>	<b>FY 2016-17 Rate (1)</b>	<b>Guaranteed Revenue</b>	<b>% of Total Wholesale Sales (\$)</b>
Tualatin Valley Water District	6/30/2026	6.4	\$1.139	\$7,314,268	42%
Rockwood Water PUD	6/30/2026	3.8	\$0.708	\$2,694,754	16%
Gresham, City of	6/30/2026	3.7	\$0.700	\$2,561,832	15%
Tualatin, City of	6/30/2026	2.1	\$1.005	\$2,157,794	13%
West Slope Water District	6/30/2026	0.7	\$1.405	\$959,833	6%
Palatine Hill Water District	6/30/2027	0.2	\$1.978	\$415,036	2%
Raleigh Water District	6/30/2026	0.3	\$0.911	\$311,177	2%
Lake Grove Water District	6/30/2026	0.1	\$1.800	\$263,503	2%
Valley View Water District	6/30/2026	0.1	\$2.040	\$161,264	1%
Sandy, City of	6/30/2028	0.2	\$0.582	\$141,999	<1%
Pleasant Home Water District	6/30/2026	0.1	\$1.027	\$100,229	<1%
Lusted Water District	6/30/2026	0.1	\$1.085	\$95,300	<1%
Burlington Water District	6/30/2026	< 0.1	\$1.337	\$35,883	<1%
Six private water companies (2)	6/30/2021	< 0.1	\$0.700	\$23,910	<1%
<b>TOTAL</b>		<b>18.0</b>		<b>\$17,236,782</b>	<b>100%</b>

Notes:

- (1) Wholesale rates are calculated using methodologies that differ from inside-city retail rates, and generally do not include distribution system costs.
- (2) Six private water companies include GNR Corporation, Green Valley Water Company, Hideaway Hills Water Company, Lorna Portland Water LLC, Skyview Acres Water Company, and Two Rivers Water Association all signed a 5-year contract beginning 7/1/2016 with a renewal option for another 5 years.

Source: City of Portland. Totals may not add due to rounding.

## RETAIL AND WHOLESALE DEMAND

The number of retail customer accounts and demand has remained about the same, and retail consumption has averaged 25.5 million ccf. See Table 10. The Bureau has aligned its annual demand projections within this historical trend.

Wholesale water demand is based on guaranteed water quantities requested by each customer. The agreement with the City of Tigard terminated effective June 30, 2016. The financial forecast for FY 2016-17 includes this reduction in wholesale revenues.

**Table 10**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Historical Consumption (ccf)**

<b>Fiscal Year Ending June 30</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>
<b>TOTAL RETAIL CUSTOMERS</b>	25,400,000	25,600,000	24,800,000	25,700,000	25,900,000
<b>WHOLESALE CUSTOMERS</b>					
Tualatin Valley Water District	6,536,389	6,497,057	6,445,029	6,694,702	7,412,974
Rockwood Water PUD	2,993,525	3,087,085	3,061,865	3,040,125	2,987,030
Gresham, City of	2,888,362	3,013,120	2,793,032	3,018,577	2,973,719
Tualatin, City of	2,493,131	2,136,013	2,067,263	2,275,654	2,114,692
Tigard, City of	2,383,738	2,451,090	2,311,166	2,514,233	2,093,844
West Slope Water District	506,309	506,227	518,699	566,461	588,420
Raleigh Water District	237,637	256,907	249,632	272,749	295,775
City of Sandy (1)	--	--	36,688	229,487	231,035
Palatine Hill Water District	142,337	167,696	151,342	183,588	188,578
Lake Grove Water District	146,325	190,535	172,470	176,825	143,140
Pleasant Home Water District	66,842	68,298	68,735	78,530	79,245
Lusted Water District	63,103	66,615	65,413	72,134	78,519
Valley View Water District	56,390	55,755	59,212	67,399	73,287
Burlington Water District	20,306	20,968	19,956	14,780	16,156
Six private water companies (2)	24,388	27,655	25,456	15,707	18,672
<b>Total Wholesale Customers</b>	18,558,782	18,545,021	18,045,958	19,220,951	19,295,086
<b>Grand Total</b>	43,958,782	44,145,021	42,845,958	44,920,951	45,195,086

Note:

- (1) The City signed a contract with the City of Sandy for water delivery beginning in FY 2013-14.
- (2) Six private water companies include GNR Corporation, Green Valley Water Company, Hideaway Hills Water Company, Lorna Portland Water LLC, Skyview Acres Water Company, and Two Rivers Water Association. In FY 2014-15, Skyview Acres Water Company purchased water from City of Sandy.

Source: City of Portland. Totals may not add due to rounding.

## **RATES AND RATE SETTING**

Section 11-105 of the City Charter authorizes the City Council to fix fees and charges for connection to and use of the water system. Water user fees and connection charges are formally reviewed every year by the Bureau. Rates required to support proposed activities for the next year are submitted by the Bureau Administrator to the City Council for review and approval.

Rates and charges for water services are established annually based, in part, upon cost of service principles and methodologies recommended by the American Water Works Association (the “AWWA”). The process used by the Bureau follows the Commodity Demand method promulgated by the AWWA. Under this approach using a rate model developed for the Bureau by Raftelis Financial Consultants, Inc. in 2006, the Water System costs are allocated to customers based on their average and peak water demand characteristics and use of the system.

Under the wholesale water sales agreements, wholesale rates are determined according to a complex set of variables and methodologies. Each wholesale customer’s rate is determined based on some variables that are specific to that customer, as well as some variables that apply to all the wholesale customers. Each wholesale customer has an annual guaranteed purchase quantity (i.e., “take-or-pay” quantity) that equals or may exceed the prior year’s guaranteed quantity, but may not be less than the prior quantity without permission of the Bureau. Each customer also selects its seasonal and maximum-day peak-demand quantities. Costs are allocated to each wholesale customer based on these various demand amounts and on the specific Water System assets that the respective wholesale customers use. Other variables impacting all wholesale customers are the Bureau’s budget and an index of municipal bond rates. The rates are then calculated for each wholesale customer on an annual basis.

Retail rates are then established based on the residual financial requirements of the Water System.

The Bureau received approval from the State of Oregon Water Resources Department in 2010 for the City’s Water Management and Conservation Plan (the “WMCP”). The WMCP final order states that the Bureau will perform a comprehensive study of conservation rate structure options within the next five years and determine whether a change in rate structure is desirable or necessary. The Bureau completed a conservation rate structure study in June 2013. The study results indicated that changes in Portland’s water rate structure were unlikely to produce significant additional reductions in water use by Portland customers. Based on the study results, the City does not plan to change its water rate structure at this time. The City submitted to the Oregon Water Resources Department a 5-year progress report as required under OAR 086-0120(4) by May 25, 2015.

Tables 11 and 12 summarize the Bureau’s historical rates and water monthly bills for various customers as well as a comparison of residential monthly water bills for various systems within the State of Oregon and the nation.

**Table 11**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Historical Water Rates**

<b>Fiscal Year Ending June 30</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>
<b>WATER USAGE RATES</b>					
Retail Volume Rate (per ccf) (1)	\$3.086	\$3.321	\$3.441	\$3.682	\$3.940
<b>BASE CHARGE (Monthly Rate)(2)</b>					
Quarterly Read Customer	\$9.33	\$10.04	\$10.40	\$11.13	\$11.91
Monthly Read Customer	\$27.99	\$30.12	\$31.21	\$33.40	\$35.74
<b>MONTHLY WATER BILLS</b> <b>(based on usage indicated below)</b>					
Residential (5 ccf) (3)	\$24.76	\$26.65	\$27.61	\$29.54	\$31.61
Medium Commercial (100 ccf) (3)	\$336.59	\$362.22	\$375.31	\$401.60	\$429.74
Large Commercial (20,000 ccf) (3)	\$61,748	\$66,450	\$68,851	\$73,673	\$78,836
Low-Income Residential (5 ccf) (4)	\$12.38	\$13.33	\$13.80	\$14.77	\$15.80

Notes:

- (1) Applies to substantially all retail customers.
- (2) The base charge is a fixed amount per bill; customers billed quarterly pay the same fixed charge as customers billed monthly.
- (3) Residential customers are charged the Quarterly Read Customer Base Charge. Commercial customers are charged the Monthly Read Customer Base Charge.
- (4) The low income discount is 50% of a 5 ccf bill.

Source: City of Portland.

**Table 12**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Comparison of Residential Monthly Water Bills**

<b><u>WATER UTILITY (Effective Date)</u></b>	<b><u>Residential Monthly Bill For 5 ccf</u></b>	<b><u>Residential Monthly Bill For 10 ccf</u></b>
<b>Local:</b>		
Rockwood Water PUD (2016)	\$19.23	\$30.73
Tualatin, City of (2016)	21.20	34.75
Milwaukie, City of (2016)	24.15	40.90
Beaverton, City of (2015)	27.85	42.70
Tualatin Valley Water District (2015)	28.48	46.23
Gresham, City of (2016)	32.97	44.62
<b>PORTLAND, CITY OF (2016) (1)</b>	33.83	54.91
West Slope Water District (2014)	35.62	57.17
Lake Oswego, City of (2016)	39.78	55.54
Tigard, City of (2016)	43.92	67.53
<b>National:</b>		
Charlotte (2016)		30.53
Cincinnati (2016)		30.99
Denver (2016)		34.79
Sacramento (unmetered) (2016)		50.30
Kansas City (2013)		56.42
Seattle (winter) (2016)		64.75

**Notes:**

- (1) Calculations are based on rates in effect as noted, and the City's rates are effective July 1, 2016, through June 30, 2017.

Source: City of Portland, Portland Water Bureau.

## **SYSTEM DEVELOPMENT CHARGES**

A System Development Charge ("SDC") is levied by the Bureau for each new water service connected to the Water System inside the City boundaries. The Bureau's SDC is in accordance with ORS 223.297-314, and is a reimbursement fee based on the estimated replacement cost of existing water facilities, less depreciation. The amount charged is dependent on the size of the service with larger services paying a greater amount based on the capacity of the meter. Services dedicated to fire flow and temporary construction services do not pay an SDC. FY 2015-16 SDC revenues were \$4.6 million.

**Table 13**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**FY 2016-17 SDC Charge by Meter/Service Size**

<u>Size of Meter/Service</u>	<u>Charge</u>
5/8"	\$2,400
3/4"	3,599
1"	5,999
1-1/2"	11,998
2"	19,197
3"	35,994
4"	59,990
6"	119,980
8"	191,967
10"	345,061

Source: City of Portland.

Beginning with the FY 1999-00 rate ordinance, City Council approved an Affordable Housing SDC Fee Waiver. For any new qualified residential construction that meets certain affordability requirements, the entire SDC can be waived for a 5/8" metered service. If a 3/4" metered service is requested, only the SDC dollar amount for the 5/8" metered service is waived. Multi-family housing SDC waivers are also available if certain affordability requirements are met. FY 2015-16 fee waivers (including accessory dwelling units waivers) totaled \$912,912. Loss of these revenues is made up through general water retail rates and charges. City Council extended the suspension of system development charges for construction of accessory dwelling units or the conversion of structures to accessory dwelling units until July 31, 2018. FY 2015-16 accessory dwelling unit SDC waivers were \$702,876.

## **BILLINGS AND COLLECTIONS**

The Bureau provides billing and collection for water, sewer, and stormwater services. The City uses a Cayenta Utilities billing system, purchased in April 2006, to serve the Bureau and the City's Bureau of Environmental Services. The City's Bureau of Revenue and Financial Services operates the billing system with costs paid by the Bureau. Billing for most retail water customers (about 177,400) is on a quarterly cycle. A monthly statement option is available for qualified customers billed on a quarterly basis. Currently, more than 22,000 customers participate in the monthly statement option. The Water Bureau is in the process of expanding the monthly statement program. In addition, more than 7,500 large retail commercial accounts, multi-family users, and wholesale purveyors are billed on a monthly basis.

A financial assistance program for water, sewer, and stormwater services is available to retail single-family residential in-city customers with gross monthly household incomes at or below 60 percent of the average State of Oregon median family income. For FY 2016-17, assistance included a flat quarterly bill discount for water customers of \$50.70, crisis assistance vouchers (maximum of \$150 per year, including \$75 for water and \$75 for sewer), in-home plumbing repair assistance for owner-occupied properties up to \$2,800, and free conservation devices. In addition, a Utility Safety Net Program is available to ratepayers as a last resort to prevent shutoff of service should they experience a significant change in household income due to employment, medical, or other emergencies.

Most water bills are collected with the payment for sewer and stormwater service. When a bill for water, sewer, or stormwater service becomes delinquent (21 days after billing) a reminder notice is sent on day 35. Additional notices are sent during an eight-week period. After eight weeks, services are terminated if the bill has not been paid. If the customer is still in arrears at the termination date, but is in contact with the Bureau, the City may set up special payment arrangements. Setting up payment arrangements rather than shutting off water service may be in the best interest of both the City and the customer to continue water service. In recent years, a number of efficiencies have been added to the Bureau's billing and collection system, including the ability for customers to make payments electronically and over the phone through an automated system.

Due to heightened Payment Card Industry ("PCI") requirements, Auto Pay functionality, which allows customers to establish automatic recurring payments online, was suspended as of September 30, 2015. Similarly, the ability to utilize a 24/7 interactive voice response payment channel was unavailable. While this functionality impacted customer convenience, it did not impact collection of water sales revenues. By October 2016, the Water Bureau restored Auto Pay functionality and is continuing to provide enhanced customer convenience features.



## **ORGANIZATION AND STAFF OF THE PORTLAND WATER BUREAU**

### **BUREAU ORGANIZATION**

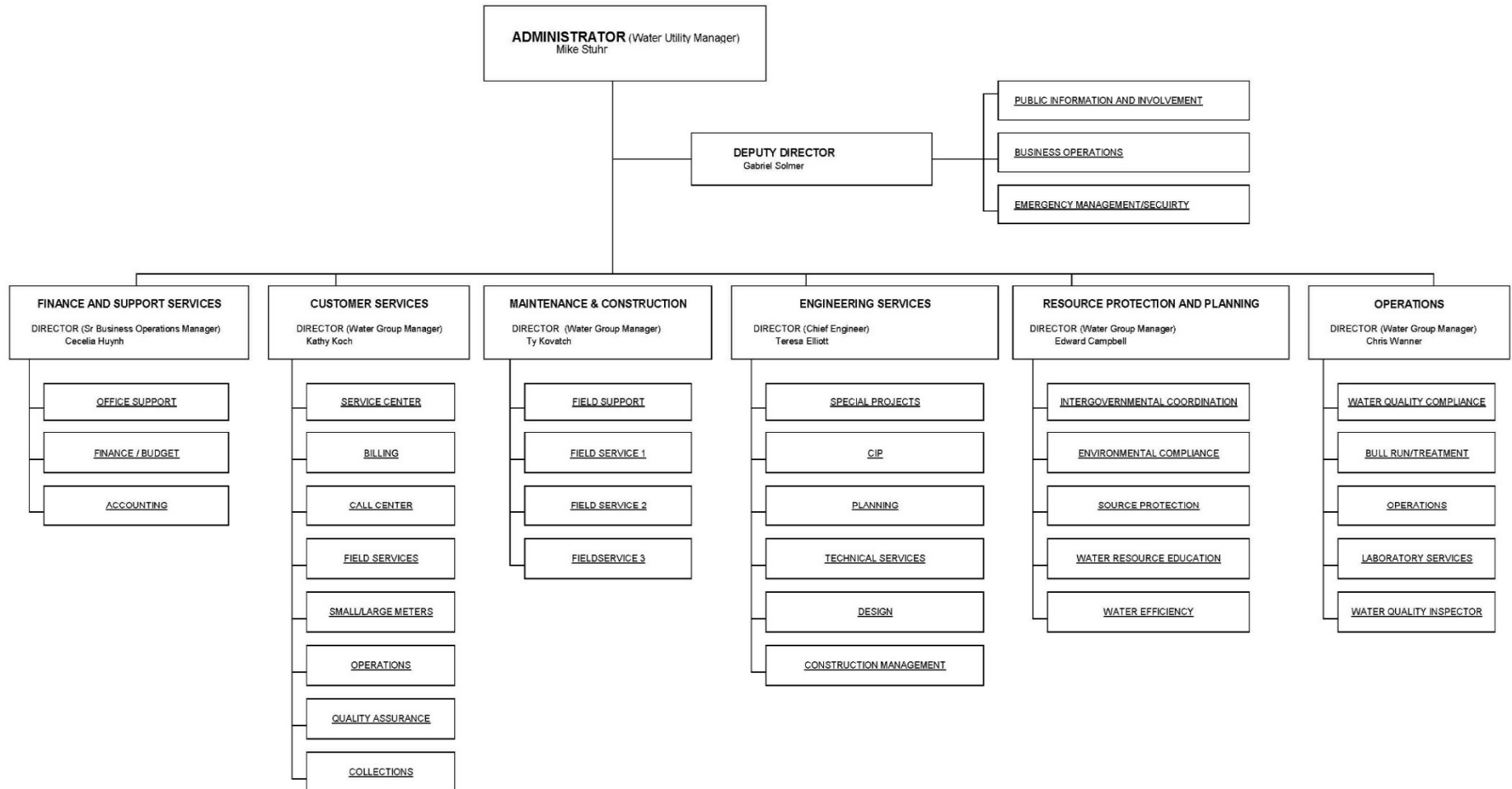
The Bureau's FY 2016-17 Adopted Budget includes 570 full-time positions, and eight part-time positions, and is managed by a nine-person Management Team led by the Administrator. The Bureau's Management Team is composed of the Administrator, Deputy Director, Water Administrative Manager, and six Work Group Directors. The Bureau's internal management structure combines the efforts of the Administrator's Office and six work groups including Finance and Support Services, Customer Services, Maintenance and Construction, Engineering, Resource Protection and Planning, and Operations. At times, consultants are used for specific projects that require expertise or staffing beyond the Bureau's capability. Certain administrative and support functions are provided by other City departments and bureaus on a reimbursable basis.

The 570 full-time positions and 8 part-time positions of the Bureau are distributed as follows:

- Administrator's Office – 21 positions, 1 part-time
- Finance and Support Services – 20 positions, 3 part-time
- Customer Services – 100 positions, 3 part-time
- Maintenance and Construction – 159 positions
- Engineering – 122 positions, 1 part-time
- Resource Protection and Planning – 28 positions
- Operations – 120 positions

The chart on the following page shows the Bureau's organization for the FY 2016-17 Adopted Budget.

# PORTLAND WATER BUREAU



Source: City of Portland, FY 2016-17 Adopted Budget.

## ADMINISTRATOR'S OFFICE AND WORK GROUPS

### Administrator's Office

The Administrator's Office is responsible for policy planning, leadership, direction, and operation of the Bureau. The Administrator's Office also manages property, emergency management, security, organization development, human resources management, public information/involvement, long-range planning, community relations, legislative activities, and liaison with the Commissioner-in-Charge and City Council. Property management responsibilities also include grounds maintenance and operation and maintenance of the drinking fountains.

### Work Groups

The **Finance and Support Services Group** provides financial planning, rate-setting, budgeting, accounting, payroll, auditing, financial-analyses, and fiscal-monitoring functions for the Bureau. It also provides clerical support for Bureau staff in the Portland Building. This group manages the interfaces to City financial and personnel systems, and other Bureau-specific software systems.

The **Customer Services Group** is responsible for managing billing, customer accounts, answering customer inquiries, processing customer payments, reading meters, quality assurance and providing water service inspections. This group is responsible for the repair, maintenance and replacement of meters.

The **Maintenance and Construction Group** is responsible for repair, operation, and maintenance of the distribution system. Installation, operation, and maintenance functions related to mains, services, valves, hydrants, and leak-detection are performed by this group. This work includes direct services and related support for control valves, carpentry, purchasing and stores operation, and loss-control programs. This group manages the Bureau's two apprentice programs. The emergency crew provides response for outside normal work hour requirements, including main breaks and other emergency responses.

The **Engineering Group** is responsible for planning, design, and construction of the Water System. Engineering staff are responsible for developing and managing the Bureau's CIP, providing asset management expertise, developing facility standards, and managing contracts. In addition, this group serves as customer liaison for new service installation, drafting (including geographic information system mapping), surveying, inspecting, and maintaining records on distribution system improvements. Administrative oversight of the Hydroelectric Power function is conducted within this group.

The **Resource Protection and Planning Group** is responsible for coordination with federal, state and local partners to protect the quality of both of Portland's drinking water sources, environmental regulatory compliance, and invasive species mitigation. Responsibilities include addressing legislative and regulatory issues and performing research, comprehensive planning on major issues, supply and demand analysis, and coordination of the Regional Water Providers Consortium. This Bureau work group is also responsible for the Bureau's business, residential and multifamily water-efficiency programs, water resource education programs, and government relations.

The **Operations Group** is responsible for the operation and maintenance of water storage and supply, treatment and transmission from the Bull Run Watershed and the Columbia South Shore and Powell Valley Well Fields. This group operates and maintains the conduits, terminal storage reservoirs, tanks, pump stations, water treatment facilities, pressure regulators, an accredited laboratory, and the Water Control Center. Staff responsibilities include water quality protection, regulatory compliance, laboratory services, system analysis, and addressing water quality customer complaints.

## MANAGEMENT PERSONNEL

The following are brief biographies of key management personnel.

**Michael Stuhr, PE, Administrator**, is responsible for the ongoing operation of the Bureau, facilitation of regional partnerships, and coordination with governments and regulators. Mr. Stuhr joined the Bureau in 2003 and was the Director of Maintenance and Construction during his first two years and Director of Engineering for 10 years. Mr. Stuhr has over 30 years of experience leading and managing a wide variety of engineering activities and more than 10 years as a senior executive with state, federal, and international experience managing multimillion-dollar environmental, water resource, and facilities engineering programs. He is a registered professional Civil Engineer. Mr. Stuhr has a Bachelor of Science degree in Engineering from the United States Military Academy at West Point, a Master of Science degree in Geotechnical Engineering from Stanford University, and a Master of Business Administration degree from the University of California, Davis.

**Gabriel Solmer, Deputy Director**, is responsible for policy and planning support, developing and monitoring the strategic plan, process improvement, change management, Bureau-wide employee engagement, property management, emergency management and security. Ms. Solmer joined the Bureau in 2015 as the Communications Director and was promoted to her current role in September 2016. Prior to coming to the Bureau, she served as Chief of Policy for David Alvarez, a San Diego Council member. Before that she was the Legal Director and Executive Director for San Diego Coastkeeper, a nonprofit focused on water quality issues. Ms. Solmer has a Bachelor of Science in biology and a Bachelor of Arts in communication from the University of California at San Diego. She earned her law degree from the University of San Diego School of Law.

**Cecelia Huynh, Director of Finance and Support Services**, is responsible for overall management of financial planning, budgeting, rate setting, accounting, and support services. Ms. Huynh has been working in the Bureau since 1990. She joined the Finance and Support Services Group in 2002 as the Budget Manager, served as the Finance Manager beginning in 2008, and was appointed as Director of Finance and Support Services in 2012. Ms. Huynh has a Bachelor of Science degree in Finance and Management from Portland State University in Portland, Oregon.

**Kathryn Koch, Director of Customer Service**, is responsible for the overall management of customer services including account services, billing and collection, quality assurance, meter reading, meter maintenance and repair, and data processing. Ms. Koch joined the Bureau in 1990. She serves as a member of the National American Water Works Association Customer Service Committee, the Pacific Northwest Customer Services Committee, and is a founding member and board member of the nationwide Water Customer Care Forum. Ms. Koch holds a Bachelor of Arts degree in English Literature from Pacific University in Forest Grove, Oregon.

**Ty Kovatch, Director of Maintenance and Construction**, is responsible for overall management of maintenance, construction and support functions, including repair and maintenance of the distribution system, maintenance management system, purchasing and stores operation, fleet, and apprentice programs. Mr. Kovatch joined the City in 2002 where he served as Chief of Staff to Commissioner Randy Leonard, who was Commissioner-in-Charge of the Water Bureau from July 2005 through December 2012. Mr. Kovatch also served as Interim Director of the City's construction and land use permitting for the Bureau of Development Services, and joined the Water Bureau in 2012. He has a Bachelor of Arts degree in Political Science from Pacific University in Forest Grove, Oregon.

**Teresa Elliott, PE, Chief Engineer and Director of Engineering**, is responsible for overall management of engineering, its support functions, and administration of the capital improvement plan including planning, design, and construction. Ms. Elliott has worked for the Water Bureau since 1996 in Engineering Services. She has overseen the reservoir projects since 2008 through planning, design and construction. She is a registered professional Civil Engineer with a Bachelor of Science degree in Civil Engineering from Portland State University in Portland, Oregon. She is a committee member of the American Society of Civil Engineers Infrastructure Resilience Division.

**Edward Campbell, Director of Resource Protection and Planning**, is responsible for resource protection and planning, including coordination with federal, state and local partners on source protection efforts for both of the Bureau's drinking water sources, long-term planning and policy development work, compliance with environmental regulations, and leading the Bureau's regulatory compliance efforts for the surface water treatment requirements of the LT2 Rule and the federal Endangered Species Act. He joined the Bureau in 2004 as an Assistant to the Administrator and was selected to lead the Resource Protection and Planning Group in August 2005. Prior to coming to the Bureau, Mr. Campbell served as a Senior Policy Advisor, Sustainability Coordinator and Chief of Staff to City Commissioner Dan Saltzman and before that as Communications Director for Multnomah County Chair Beverly Stein. Mr. Campbell holds a Bachelor of Arts degree in English Literature from the University of Southern California and a Master of Arts degree in English Literature from the University of Virginia in Charlottesville, Virginia.

**Chris Wanner, Director of Operations**, is responsible for management of operations and maintenance of surface and groundwater supplies, including treatment, transmission, storage, distribution, pump stations and tanks, system analysis, and the SCADA system. Since 1984, Mr. Wanner has held various Bureau positions and was appointed as Director of Operations in 2005. He is the designated Direct Responsible Charge for the Bureau with the State of Oregon and holds certifications for both Water Distribution (WD4) and Water Treatment (WT4). Mr. Wanner currently serves on the State's Drinking Water Advisory Committee and is Vice-Chair of ORWARN.

## **BUREAU PROGRAMS**

The Bureau's work is organized within seven Bureau programs:

- **Supply Program** – Providing high-quality water in quantities that customers desire is one of the most important elements of the Water Bureau's mission. The Supply Program supports activities related to supplying water for all of the Bureau's retail

and wholesale customers. This includes projects and programs for the primary Bull Run supply, the secondary groundwater supply at the CSS Well Field, and the backup Powell Valley Well Field.

- **Treatment Program** – The Treatment Program contributes to the Bureau’s ability to reliably deliver high-quality water that meets or exceeds customer and regulatory standards. The Bureau applies treatment appropriate for a large public water system with unfiltered surface water and groundwater sources. Through regulatory compliance measures, the Bureau also fulfills the conditions of a variance to the treatment requirements of the LT2 Rule. The Treatment Program currently provides for the application of chlorine, ammonia, and sodium hydroxide, and for the associated regulatory and process-control monitoring and reporting.
- **Transmission and Terminal Storage Program** – The Water System relies on the natural force of gravity to deliver and store water in many parts of the system. The Transmission and Terminal Storage Program includes the very large pipes that convey water by gravity to the large terminal storage reservoirs. Major terminal storage currently includes Powell Butte, Washington Park, Kelly Butte Reservoirs as well as the Sam Jackson 2, and Mayfair tanks.
- **Distribution Program** – The Distribution system is the circulatory system of approximately 2,100 miles of pipe in Portland that provide connections for retail and wholesale customers. Distribution system elements convey water from the large terminal storage facilities and control and monitor storage and flow in the system 24 hours a day. Tanks and pump stations store, release, and move water and contribute to providing the appropriate water pressure for customers and fighting fires. Meters in the system record water flows for operations and usage for billing purposes. Hydrants provide connections for fighting fires, and valves control water flows for maintenance or emergencies. The repair, rehabilitation, and replacement of elements of the distribution system are also covered in this program. This program also includes operation and maintenance of drinking fountains.
- **Regulatory Compliance Program** – The Regulatory Compliance Program provides for both the quality of the water that customers drink and for making sure the Bureau is able to meet environmental regulations. Regulatory Compliance Program staff ensures that water from both supply sources meets or exceeds all federal and state water quality requirements for drinking water, including the many regulations of the SDWA. Regulatory Compliance staff ensure compliance with other regulatory standards, including the conditions of the variance to the treatment requirements of the LT2 Rule, the Endangered Species and Clean Water Acts, and permits that regulate the proper disposal of dechlorinated water. Regulatory Compliance staff also implement monitoring programs and reporting related to the regulations.
- **Customer Service Program** – The Customer Service Program staff have daily contact with customers. The Bureau’s call center staff answer questions and provide resources for people with questions about water, sewer, and stormwater services. Meter readers and inspectors contact customers at their homes and businesses. Staff provide outreach and technical assistance to customers about water efficiency. Customer Service includes billing and collection for water, sewer, and stormwater services and assistance for qualifying low-income water customers. The Bureau’s permitting function, security, grounds, and emergency management and preparedness activities are also part of the Customer Service Program.
- **Administration and Support** – The Administration and Support Program provides support to the other Bureau programs. This includes strategic planning, financial management, asset management, data management, and human resource functions. The purpose of this program is to help ensure that the needs of the other programs are met and that City-wide information and services are provided as needed for the most effective operations of the other six Bureau programs.

## CITIZEN INVOLVEMENT

In response to citizen concerns about the capital program and rate-making process, the City has pursued two initiatives to provide City decision makers with additional information and resources.

On January 8, 2014, the City Council approved a partnership agreement between the City and the Citizens’ Utility Board of Oregon (the “CUB”). The CUB is a non-profit organization created in 1984 by a citizens’ ballot initiative to represent the interests of residential utility ratepayers statewide. During this five-year partnership, the CUB will provide outside, independent analysis of the operations, budgets, and rates of the City’s two utility bureaus, the Bureau and the City’s Bureau of Environmental Services (BES).

On June 10, 2015, the City Council approved Ordinance Number 187174 to create the Portland Utility Board (the “PUB”), a citizen oversight panel that replaces prior public bodies (the Portland Utility Review Board and budget advisory committees) for the Bureau and BES. The PUB advises Council regarding operations of the two utility bureaus, including development of bureau budgets and financial plans, capital spending, rate setting and other topics. The PUB is staffed by employees of the City Budget

Office to ensure timely and independently managed access to City and Bureau information. The PUB began with 9 public members. In September 2016, City Council increased the PUB oversight membership from 9 to 11 citizen members.

## **CAPITAL IMPROVEMENT PLAN**

Proceeds of the 2016 Series A Bonds will be used to fund a portion of the costs of the capital improvement plan (the “CIP”) of the Water System, including additions, improvements, and capital equipment that facilitate supply, treatment, transmission, storage, pumping, distribution, regulatory compliance, customer service and support.

Funding for the CIP is through a combination of cash flow from rates, proceeds from borrowings, project reimbursements, SDCs, and interest earnings. The size and timing of future bond issues is determined through analysis of projected capital requirements and Water System financial resources.

### **THE CAPITAL PLANNING PROCESS**

The Bureau focuses its efforts on improving system reliability and resiliency and also comply with drinking water and environmental regulations. Ensuring system reliability includes addressing risks of assets with high consequences of failure, replacing aging and obsolete pipes and equipment, and making system adjustments to improve operations. The CIP is the implementation plan for Water System improvements. It is updated annually and is the budget and policy tool for the Bureau and City Council to direct capital work. The CIP identifies in detail specific projects, their budgets, phasing of components, and the relationship among capital projects.

Capital projects provide for investments in the Water System to ensure the long-term expansion of neighborhoods and business centers. The CIP includes projects necessary to comply with regulations for drinking water quality to protect human health. Bureau construction projects meet the environmental requirements of city, state, and federal regulations.

The Bureau's capital planning process is also guided by the City's 2035 Comprehensive Plan. The 2035 Comprehensive Plan guides future development and infrastructure projects to prepare for and respond to population and job growth. It includes standards for maintaining and developing water system resources to ensure reliability, adequacy of supply, and water quality. The 2035 Comprehensive Plan recommends that the Bureau invest in maintaining and developing water-system resources. The projects in the Bureau's CIP budget provide for maintenance of the City's Water System and development of new facilities in a proactive, strategic, and cost-effective manner that is aligned with Portland's 2035 Comprehensive Plan.

Most Bureau project proposals are identified through long-range planning studies such as master plans and asset-specific analyses of systems, service areas, or groups of assets. Bureau decision-makers weigh individual projects against wider Bureau issues and requirements. If projects are recommended to move forward, planning staff conducts detailed studies. The Bureau uses industry practices in benefit-cost analysis and risk assessment to identify and weigh project alternatives.

Project initiation and planning includes several decision-making points. For major projects, an initial concept report includes evaluations of project alternatives and recommendations. The Bureau's senior management uses the initial findings to narrow alternatives and approve next steps. If approved, a project undergoes more formal evaluation in a Project Validation Report, including benefit-cost analysis and risk assessment to weigh proposed solutions and identify benefits. The Bureau selects and ranks capital projects with consideration for the magnitude and necessity of each project.

Each year, the Bureau engages the public in developing its budget and the CIP. Beginning in 2015, the newly formed PUB has provided oversight of financial plans, capital improvements, annual budget development, and rate-setting for the City's water, sewer and stormwater services. The city-wide budget review process provides another opportunity for members of the community to give feedback on the budget. In addition, all CIP projects that affect neighborhoods or require city, state, or federal permitting also include a period of public outreach and involvement.

## CAPITAL PROGRAMS AND PROJECTS

The CIP is summarized within the following seven Bureau programs with key projects identified:

- **Supply:** This program includes projects to improve roads in the Watershed, replace aging and obsolete equipment, rehabilitate a septic system, and make improvements to the groundwater facilities.
- **Treatment:** Projects in this program provide needed reliability improvements at the water intake and treatment facilities. The primary projects in this program are Lusted Hill Operations Building improvements and Headworks generator improvements.
- **Transmission and Terminal Storage:** This program includes assets that convey water from water supply facilities to points in the retail distribution and the wholesale connection systems. Assets in this program include the large conduits, transmission mains, and the large terminal reservoirs at Powell Butte, Kelly Butte, and Washington Park. The large storage tanks at Powell Butte and Kelly Butte have been completed and placed in service. The improvements to Washington Park to conform to LT2 Rule requirements continues. See “REGULATORY ENVIRONMENT—CURRENT AND EMERGING REGULATORY ISSUES—Compliance with the LT2 Rule” herein. Also included is \$42 million for other conduit and transmission main projects.
- **Distribution:** Approximately \$218 million of the CIP is for improvements to the distribution system. Of that amount, about \$91 million is to be used for direct water line replacement projects, including replacement of the oldest or most deteriorated portions of the distribution system and projects initiated by other agencies. Approximately \$55 million is for a project to build a large pipe crossing of the Willamette River. Existing pipelines across the Willamette River do not meet current seismic code and are expected to fail in a large seismic event. This project will add a new pipeline built to the current seismic code and will provide a reliable transmission link between Powell Butte and the service areas west of the Willamette River, including downtown and the storage reservoirs at Washington Park, Sam Jackson and Mayfair. Approximately \$17 million is to improve the reliability of pump stations and tanks. Other improvements include services, meters, hydrants, and vehicle and equipment replacement.
- **Regulatory Compliance:** This program includes improvements to comply with federal regulations such as the Clean Water and the Endangered Species Acts. Also included is a project to add capabilities to the Bureau’s existing water quality lab to perform in-house *Cryptosporidium* analysis for the purposes of continuing to achieve compliance with the Bureau’s Bull Run Treatment Variance.
- **Customer Service:** There are no large customer service projects identified.
- **Support:** This program includes the allocated share of the Portland Building Renovation project.

## CAPITAL IMPROVEMENT PLAN RESOURCES AND REQUIREMENTS

Capital costs during the forecast period are contained within seven programs in the CIP. Summary costs for seven of the Bureau Programs are shown in Table 14. Table 15 shows Water Construction Fund Sources and Uses of Funds for the forecast period from FY 2016-17 through FY 2020-21. The Bureau’s direct capital requirement forecast for the Water System totals \$499.3 million during the five-year period FY 2016-17 through FY 2020-21. During the same period, resources supporting all related capital construction include cash-financed capital funding from rate revenues of \$156.7 million, capital charges of \$55.3 million, interest income of \$2.6 million, and proceeds from borrowings of \$398.9 million, including the 2016 Series A Bonds. Bond proceeds (net of debt service reserves) totaling approximately \$398.9 million are anticipated in FYs 2016-17 through 2019-21.

As discussed above, the CIP is being revised. Spending plans are subject to change as the CIP is updated.



**Table 14**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Forecast Direct Capital Requirements (1)**

<b>Fiscal Year Ending June 30</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>Total</b>
(In thousands of dollars)						
<b>BUREAU PROGRAM (2)</b>						
Supply	\$4,769	\$6,890	\$4,408	\$3,987	\$4,500	\$24,554
Treatment	440	1,345	693	10,952	10,952	24,382
Transmission and Terminal Storage	35,269	55,394	41,997	30,163	22,339	185,162
Distribution	37,704	43,691	69,225	32,885	34,595	218,100
Regulatory Compliance	2,364	2,378	2,278	2,278	2,278	11,576
Support	-	-	-	-	35,190	35,190
Customer Service	66	66	66	66	66	330
<b>TOTAL BY BUREAU PROGRAM</b>	<b>\$80,612</b>	<b>\$109,764</b>	<b>\$118,667</b>	<b>\$80,331</b>	<b>\$109,920</b>	<b>\$499,294</b>

Notes:

- (1) In current dollars based on FY 2016-17 Adopted Budget.  
(2) Forecast capital costs do not include expensed capital studies.

Source: City of Portland. Totals may not add due to rounding.

**Table 15**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Water Construction Fund**  
**Forecast Sources and Uses of Funds (1)**

<b>Fiscal Year Ending June 30</b>	2016-17	2017-18	2018-19	2019-20	2020-21
(In thousands of dollars)					
<b>BEGINNING BALANCE (cash)</b>	\$33,247	\$78,279	\$93,606	\$60,163	\$63,104
<b>RECEIPTS</b>					
Capital Charges	\$10,610	\$10,668	\$10,960	\$11,379	\$11,685
Bond Proceeds	85,356	102,195	69,852	66,197	71,562
Transfer from Water Fund	20,030	33,336	30,490	34,109	38,771
Interest Income	547	578	532	417	578
<b>TOTAL RECEIPTS</b>	116,544	146,776	111,834	112,103	122,595
<b>TOTAL SOURCES OF FUNDS</b>	\$149,791	\$225,055	\$205,440	\$172,265	\$185,699
<b>EXPENDITURES</b>					
Capital Reimbursement to Water Fund	\$96,252	\$131,449	\$145,277	\$109,161	\$146,493
<b>TOTAL EXPENDITURES</b>	96,252	131,449	145,277	109,161	146,493
<b>ENDING BALANCE</b>	53,539	93,606	60,163	63,104	39,206
<b>TOTAL USES OF FUNDS</b>	\$149,791	\$225,055	\$205,440	\$172,265	\$185,699

Notes:

(1) Based on FY 2016-17 Adopted Budget.

Source: City of Portland. Totals may not add due to rounding.

## **FINANCIAL POLICIES AND PLANNING STANDARDS**

### **FIVE-YEAR FINANCIAL PLAN**

The Bureau prepares a five-year financial plan each year. The financial plan includes operating and capital expenditures and expected rates for each year of the five-year forecast period. The financial plan reflects the financial implications of the Bureau's priorities and service levels.

Key policy objectives in developing the Bureau's financial plan include:

- Providing for sufficient annual funding of operating, maintenance, and capital programs approved by City Council;
- Providing for rates and charges to customers that are equitably based on generally accepted cost-of-service principles and as directed by City Council;
- Achieving a balance among financial health, operational effectiveness, infrastructure condition, effective management, rate affordability, and a skilled and experienced workforce;
- Optimizing capital financing strategies; and
- Ensuring the maintenance of appropriate and adequate cash balances (operating fund, construction fund, and rate-stabilization account) consistent with City policies, bond covenants, and industry standards.

### **FINANCIAL OPERATIONS POLICIES**

#### **Operating and Construction Cash Reserves**

The Bureau plans for a minimum fiscal year-end operating cash reserve of \$15.0 million. The Bureau also plans for a construction cash reserve of \$5.0 million or one-half of annual debt-financed capital expenditures, whichever is less. Bond sales are scheduled every twelve to eighteen months when the balance in the Construction Fund approaches this level.

#### **Rate Stabilization Account**

In connection with the issuance of Second Lien bonds in 2006, the Bureau established a Rate Stabilization Account within the Water Operating Fund to smooth rate increases over the financial planning period and beyond. This smoothing is one of the Bureau's key financial planning objectives and is aimed at maintaining financial stability and predictability. It also helps ensure that debt-service coverage meets planning standards. See "POLICIES AND PLANS GOVERNING BOND ISSUES" below. The Bureau began funding the Rate Stabilization Account beginning in FY 2006-07, and plans to maintain a minimum balance of \$5.0 million as defined in the Master Second Lien Water System Revenue Bond Declaration. This minimum Rate Stabilization Account balance also serves as an available useable reserve for unforeseen requirements. See "FINANCIAL PROJECTIONS—USE OF RATE STABILIZATION ACCOUNT – Table 18" herein.

### **POLICIES AND PLANS GOVERNING BOND ISSUES**

Since 1993, the Bureau has regularly funded a portion of its CIP through the issuance of revenue bonds. Though not required by bond covenants, the Bureau's planning standard is to set rates such that Net Revenues provide at least 1.90 times debt service coverage on First Lien Bonds. Additionally, the Bureau will maintain a planning standard that results in Stabilized Net Revenues providing at least 1.75 times coverage on the Combined Annual Debt Service (as defined in the Master Second Lien Water Revenue Bond Declaration) for both First and Second Lien Bonds. These standards exceed the debt service coverage required by the bond covenants.

## WATER SYSTEM OPERATING AND FINANCIAL INFORMATION

### OVERVIEW

This section provides financial and operating information specifically related to the Water System. Operating and Financial information for the City as a whole is found in Appendix D entitled "CITY OPERATING AND FINANCIAL INFORMATION."

### FUND ACCOUNTING SYSTEM

The Bureau's financial reporting system is organized into three separate funds. The funds and their financial reporting purpose are described as follows:

**Water Operating Fund.** This fund serves as the operating fund of the Bureau and, with the exception of debt service, all expenditures are made from this fund for operation, maintenance and capital assets. Receipts from the sale of water are the primary source of revenue for the Water Operating Fund. The cash flow in this fund determines the need for rate increases. The Rate Stabilization Account is within the Operating Fund.

**Water Construction Fund.** By City Charter stipulation, this fund is the recipient of proceeds from bond sales and SDCs. Other sources of revenue include reimbursements for capital expenditures, such as main extensions and service installations and sale of assets. Also, a portion of the water sales revenues is transferred to this fund to finance routine system repair and replacement. The Water Construction Fund reimburses the Water Operating Fund for capital asset requirements including capitalized overhead, capitalized interest, and the cost of issuing bonds.

**Water Bond Sinking Fund.** This fund provides for the repayment of bonded debt and interest, and maintains the water revenue bond debt service reserves for various issues. The source of revenue for this fund is a transfer from the Water Operating Fund and interest earnings.

These three funds enable the Bureau to segregate resources for specific uses and ensure that reserves are not used to supplement daily operating needs. Maintenance of the fiscal integrity of each fund is a key objective of the Bureau's financial planning and analysis efforts. The Bureau's fund structure provides for the accounting and control of expenditures and differs from the account structure described in the Master First Lien Bond Declaration and the Master Second Lien Bond Declaration. The accounts described in the Master First Lien Bond Declaration and the Master Second Lien Bond Declaration have been established to identify priority claims on Water System revenues and are accounted for separately.

### HISTORICAL OPERATING RESULTS

The Bureau has collected Water System revenues sufficient to provide for all operating expenses, to pay debt service, and to meet debt service coverage requirements on its outstanding Water System revenue bonds. In addition to meeting these requirements, the Bureau provides cash financing of its capital program by setting current rates and charges at a level sufficient to meet planned debt service coverage targets.

The Bureau continues to maintain a target minimum debt service coverage ratio of 1.90 times on First Lien Bonds (higher than the 1.25 times required by the Master First Lien Bond Declaration). In addition, the Bureau maintains a minimum debt service coverage ratio target for combined first and second lien bond debt service of 1.75 times using Stabilized Net Revenues as defined in the Master Second Lien Bond Declaration. (The Master Second Lien Bond Declaration requires 1.10 times debt service coverage using Stabilized Net Revenues.)

Historical operating results of the Bureau's financial operations are shown in the following table. Between FY 2011-12 and FY 2015-16, Gross Revenues grew at a compound annual rate of 7.9 percent. Gross revenues increased overall primarily due to the rate change for water sales, increased delinquency receipts, and an increase in capital charges due to an increase in building and permitting activity. Gross revenues also increased in FY 2014-15 and FY 2015-16 due to increased water demand. Operating Expenses during the five-year period averaged \$72.1 million.

Over the last five years, Net Revenues have provided from 2.39 times to 3.36 times debt service coverage on First Lien Bonds. Debt service coverage decreased in FY 2015-16 due to increased water sales and capital revenue, offset with higher operating expenses and debt service. The Bureau contributed \$3.0 million to the Rate Stabilization Account in FY 2015-16. Stabilized Net Revenues provided 2.01 times coverage on the combined annual debt service for both First and Second Lien Bonds in FY 2015-16. Audited statements of revenues, expenses, and changes in fund net position, the statement of net position, and the statement of cash flows for the Water Fund are presented in the Appendix C.

**Table 16**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Historical Operating Results**

<b>Fiscal Year Ending June 30</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>
(in thousands of dollars)					
<b>GROSS REVENUES (1)</b>					
Operating Revenues	\$124,114	\$135,649	\$135,616	\$147,558	\$161,849
Interest Earnings	719	744	1,021	1,020	1,371
Capital Charges	7,523	12,263	10,860	13,950	15,980
Total Gross Revenues	\$132,356	\$148,656	\$147,497	\$162,528	\$179,200
<b>OPERATING EXPENSES (1) (2)</b>					
Operating Expenses	\$67,670	\$66,199	\$65,035	\$67,951	\$93,514
<b>NET REVENUES</b>	\$64,686	\$82,457	\$82,462	\$94,577	\$85,686
<b>DEBT SERVICE</b>					
<b>First Lien Bonds</b>	<b>\$27,026</b>	<b>\$31,511</b>	<b>\$26,415</b>	<b>\$28,151</b>	<b>\$28,804</b>
Second Lien Bonds	\$4,550	\$4,550	\$19,313	\$22,054	\$22,050
G.O. Bonds (3)	\$0	\$0	\$0	\$0	\$0
<b>DEBT SERVICE COVERAGE (4) (5)</b>					
<b>First Lien Bonds</b>	<b>2.39</b>	<b>2.62</b>	<b>3.12</b>	<b>3.36</b>	<b>2.97</b>
First and Second Lien Bonds	2.05	2.29	1.80	1.88	2.07
All Debt	2.05	2.29	1.80	1.88	2.07

Notes:

- (1) As defined in the Master First Lien Bond Declaration. Does not reflect adjustments to Second Lien Bond calculations as defined in the Master Second Lien Bond Declaration. Operating expenses excludes a negative expense of \$12.8 million for FY 2014-15 and includes an expense of \$19.8 million for FY 2015-16 related to GASB 68. That treatment of these non-cash items results in the most conservative debt coverage calculation for both fiscal years. Effective with the issuance of the 2016 Series A Bonds and FY 2016-17, these non-cash GASB-related expenses will be excluded from the Operating Expenses in calculating Net Revenues and debt service coverage. See definition of Operating Expenses in Master First Lien Bond Declaration.
- (2) Operating expenses include the Bureau's share of debt service for the City's pension obligation bonds and Post-Employment Retirement Benefits. See "CITY OPERATING AND FINANCIAL INFORMATION—PENSION PLANS—Pension Obligation Bonds" and "—OTHER POST-EMPLOYMENT BENEFITS ("OPEB")" in Appendix D.
- (3) There are no outstanding General Obligation Bonds subsequent to the final principal payment on October 1, 2010.
- (4) See Table 20 for debt service coverage on combined first and second lien bonds based on Stabilized Net Revenues.
- (5) The First Lien Bond debt service coverage ratio for FY 2015-16 would be 3.66 after adjusting for springing amendments incorporated in the First Lien Bond Declaration.

Source: City of Portland. Totals may not add due to rounding.

## OTHER FINANCIAL INFORMATION

### Outstanding Water System Debt

Upon the issuance of the 2016 Series A Bonds, the City will have an estimated total of \$663,025,000 of Water System revenue bonds outstanding. The following table shows outstanding Water System revenue bonds as of the delivery of the 2016 Series A Bonds.

**Table 17**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Outstanding Water System Revenue Bonds**  
**As of the Delivery of the 2016 Series A Bonds**

<b>Issue</b>	<b>Dated</b>	<b>Final Maturity</b>	<b>Original Par Amount</b>	<b>Amount Outstanding</b>
<b>First Lien Water System Revenue Bonds</b>				
2010 Series A	02/11/10	05/01/35	\$73,440,000	\$62,690,000
2011 Series A	03/22/11	05/01/36	82,835,000	72,985,000
2012 Series A	08/02/12	04/01/37	76,510,000	67,810,000
2014 Series A	12/16/14	05/01/39	84,975,000	79,610,000
2016 Series A	12/15/16	04/01/41	168,525,000	168,525,000
<i>Subtotal</i>			<u>\$486,285,000</u>	<u>\$451,620,000</u>
<b>Second Lien Water System Revenue Bonds</b>				
2013 Series A	05/02/13	10/01/37	\$253,635,000	\$211,405,000
<i>TOTAL</i>			<u>\$739,920,000</u>	<u>\$663,025,000</u>

Source: City of Portland.

## **FINANCIAL PROJECTIONS**

### **KEY FORECAST ASSUMPTIONS**

Financial projections for the Water System through FY 2020-21 are shown in the following three tables.

Key assumptions underlying the expenditure forecast include:

- Annual inflation for operating requirements for FY 2016-17 of 1.8 percent, and 3.3 to 5.1 percent for the remaining forecast period.
- The Bureau's cost related to the City's outstanding pension obligation bonds rises from \$3.9 million in FY 2016-17 to \$5.0 million in FY 2020-21, for a total of \$22.6 million over the forecast period.
- Pension system contribution rates average 17.0 percent of salary for FY 2016-17 and rise to 28.5 percent by FY 2021-22. See "CITY OPERATING AND FINANCIAL INFORMATION—PENSION PLANS" in Appendix D.
- All costs related to compliance with the LT2 Rule including regular monitoring and capital projects.

Key assumptions underlying the revenue forecast include:

- Retail water demand is projected to remain at 25.1 million ccf for the forecast period.
- Wholesale water sales across the forecast period are based on the 5-, 10- and 20-year contract terms. Wholesale revenues are forecast at \$17.2 million in FY 2016-17, or an average of about \$18.2 million per year over the five-year planning period. Increasing annual revenues over this period are due to modest inflationary increases and new capital investments that serve wholesale customers.
- The City of Tigard wholesale contract terminated on June 30, 2016. The remaining customers with 10-year agreements have automatically renewed for another 10 years with an expiration date of June 30, 2026.
- User charges are projected to increase, as described below. See "FINANCIAL PROJECTIONS—FORECAST RATES AND CHARGES" herein.
- In developing the five-year projections, it has been assumed that additional First Lien Bonds or Second Lien Bonds will be issued to fund capital program requirements. Assumptions underlying the debt service forecast include:
  - An assumed true interest cost of 3.5 percent for the 2016 Series A Bonds.
  - There is no subaccount established in the First Lien Bond Reserve Account for the 2016 Series A Bonds.
  - Additional First Lien or Second Lien Bonds totaling \$335 million are anticipated to be issued in FY 2017-18 through FY 2020-21. A five percent true interest cost is assumed for the FY 2017-18 issue and a six percent true interest cost is assumed for each subsequent issue. The debt service reserve for each issue is assumed to be funded with bond proceeds at 100 percent of maximum annual debt service.

### **USE OF RATE STABILIZATION ACCOUNT**

In 2006, the Bureau established a Rate Stabilization Account to smooth rate increases while ensuring that coverage meets planning standards. See "PROVISIONS OF THE 2016 SERIES A BONDS—SUBORDINATE OBLIGATIONS—Second Lien Bonds" and "FINANCIAL POLICIES AND PLANNING STANDARDS—FINANCIAL OPERATIONS POLICIES—Rate Stabilization Account" herein. The following table shows projected ending balances in the Rate Stabilization Account.

**Table 18**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Projected Rate Stabilization Account**  
**Ending Balance (1)**

<b>Fiscal Year</b>	<b>Ending Balance</b>
2016-17	\$32,372,000
2017-18	\$30,572,000
2018-19	\$24,372,000
2019-20	\$16,072,000
2020-21	\$7,872,000

Notes:

- (1) The Rate Stabilization Account serves as a contingency for unforeseen expenditures, and to build account balance for the purpose of smoothing rate increases.

Source: City of Portland.

## FORECAST REVENUES AND EXPENDITURES

Forecast sources and uses of the Water Operating Fund for FY 2016-17 through FY 2020-21 are shown in Table 19. Table 20 shows historical, projected, and forecast results of the Water System's financial operations for FY 2010-11 through FY 2020-21, including trends in revenues, expenses, and debt service coverage.

The principal resources available to the Water Operating Fund are service charges and fees. FY 2016-17 water rates and charges were adopted by City Council on June 1, 2016, representing an average effective retail rate increase of 7.0 percent from FY 2015-16 amounts. The average effective retail rate increase for FY 2017-18 is estimated at 7.1 percent, 7.5 percent in FY 2018-19, 7.2 percent in FY 2019-20, and 10.1 percent in FY 2020-21. See Table 21. All future rate increases are subject to City Council approval. As shown in the following table, receipts increase from \$257.6 million to \$359.4 million over the period FY 2016-17 to FY 2020-21 and represent an average annual increase of 9.2 percent. This increase is primarily the combination of projected increases in water rates and increases in the reimbursement of capital expenditures from the Construction Fund. See "—FORECAST RATES AND CHARGES" herein. No change in the number of retail customer accounts served by the Water System is expected. Overall retail water demand is projected to remain at 25.1 million ccf for the forecast period. The other major revenue source for the Water Operating Fund is the reimbursement of all capital expenditures by the Water Construction Fund. This amount averages \$125.7 million per year over the forecast period.

The Bureau projects Water Operating Fund expenditures to increase over the FY 2016-17 through FY 2020-21 forecast period from \$256.2 million to \$367.6 million. Total operation and maintenance expenses are projected to increase from \$87.9 million to \$103.3 million over the same interval, representing an average annual increase of 4.1 percent. In addition to operation and maintenance expenses, Water Operating Fund requirements include capital outlays (reimbursed by the Water Construction Fund), debt service payments (transfers to the Water Bond Sinking Fund), cash transfers (rate-financed capital) to the Water Construction Fund, General Fund overhead, Utility License Fee cash transfers to the General Fund, and payments of the Bureau's share of pension obligation bond debt.

As is shown in Table 20, sufficient Net Revenues are projected to meet and pay debt service on revenue bonds, including planned future issues. Net Revenues provide from 2.12 to 2.68 times debt service coverage for First Lien Bonds, which exceeds the Bureau's 1.90 planning standard for First Lien Bond debt service coverage. Net Revenues also provide from 1.63 to 1.72 times coverage on Combined Annual Debt Service for both First and Second Lien Bonds. Stabilized Net Revenues provide not less than 1.75 times coverage on Combined Annual Debt Service for First and Second Lien Bonds.



**Table 19**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Water Operating Fund**  
**Forecast Sources and Uses of Funds (1)**

<b>Fiscal Year Ending June 30</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
(In thousands of dollars)					
<b>BEGINNING BALANCE (Cash) (3)</b>	\$16,216	\$22,953	\$15,003	\$15,004	\$15,005
<b>RECEIPTS:</b>					
Water Sales	\$156,065	\$166,687	\$178,014	\$190,231	\$207,899
Interagency Receipts	2,376	1,595	1,650	1,734	1,791
Transfers from Construction Fund	96,260	131,449	145,277	109,161	146,493
Interest Income	381	502	423	351	268
Other Miscellaneous Receipts	2,508	2,593	2,681	2,818	2,911
<b>TOTAL RECEIPTS</b>	<b>257,591</b>	<b>302,827</b>	<b>328,044</b>	<b>304,294</b>	<b>359,362</b>
Transfer from Rate Stabilization Account	5,300	1,800	6,200	8,300	8,200
<b>TOTAL SOURCES OF FUNDS</b>	<b>\$279,107</b>	<b>\$327,579</b>	<b>\$349,246</b>	<b>\$327,598</b>	<b>\$382,567</b>
<b>EXPENDITURES</b>					
Operation and Maintenance	\$87,874	\$91,437	\$93,956	\$98,781	\$103,270
Transfers to Construction Fund	20,030	33,336	30,490	34,109	38,771
Direct Capital Costs	79,572	113,993	127,227	90,191	126,897
General Fund Overhead	5,454	5,774	5,958	6,262	6,469
Utility License Fee	6,774	7,256	7,800	8,367	9,193
Pension Obligation Bond Debt (2)	3,893	4,334	4,569	4,786	4,977
Transfer to Water Bond Sinking Fund	52,557	56,447	64,241	70,097	77,986
<b>TOTAL EXPENDITURES</b>	<b>256,154</b>	<b>312,577</b>	<b>334,242</b>	<b>312,593</b>	<b>367,563</b>
Transfer to Rate Stabilization Account	0	0	0	0	0
<b>ENDING BALANCE (3)</b>	<b>22,953</b>	<b>15,003</b>	<b>15,004</b>	<b>15,005</b>	<b>15,004</b>
<b>TOTAL USES OF FUNDS</b>	<b>\$279,107</b>	<b>\$327,579</b>	<b>\$349,246</b>	<b>\$327,598</b>	<b>\$382,567</b>

Notes:

- (1) Forecast based on FY 2016-17 Adopted Budget.
- (2) See APPENDIX D, CITY OPERATING AND FINANCIAL INFORMATION, "PENSION PLANS: OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM—Pension Obligation Bonds." Debt service paid by the Bureau on its share of pension obligation bond debt is treated as an Operating Expense.
- (3) Does not include amounts in Rate Stabilization Account, which are shown in Table 18.

Source: City of Portland. Totals may not add due to rounding.

**Table 20**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Historical, Projected and Forecast Operating Results (1)**

<b>Fiscal Year Ending June 30</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
(in thousands of dollars)											
<b>GROSS REVENUES (2)</b>											
Operating Revenues	\$112,191	\$124,114	\$135,649	\$135,616	\$147,558	\$161,849	\$160,950	\$170,875	\$182,344	\$194,782	\$212,601
Interest Earnings	650	719	744	1,021	1,020	1,371	1,095	1,447	1,336	1,218	1,356
Capital Charges	5,859	7,523	12,263	10,860	13,950	15,980	10,385	10,443	10,727	11,135	11,432
Total Gross Revenues	\$118,700	\$132,356	\$148,656	\$147,497	\$162,528	\$179,200	\$172,431	\$182,765	\$194,407	\$207,135	\$225,388
<b>OPERATING EXPENSES (2) (3)</b>											
Operating Expenses	\$64,373	\$67,670	\$66,199	\$65,035	\$67,951	\$93,514	\$81,447	\$85,045	\$87,423	\$91,898	\$96,193
<b>NET REVENUES</b>	\$54,327	\$64,686	\$82,457	\$82,462	\$94,577	\$85,686	\$90,983	\$97,720	\$106,984	\$115,237	\$129,195
<b>DEBT SERVICE (4)</b>											
First Lien Bonds	\$22,143	\$27,026	\$31,511	\$26,415	\$28,151	\$28,804	\$34,005	\$38,036	\$46,967	\$52,883	\$60,837
Second Lien Bonds	4,546	4,550	4,550	19,313	22,054	22,050	18,772	18,778	17,655	17,665	17,659
G.O. Bonds (5)	1,617	-	-	-	-	-	-	-	-	-	-
Total Debt Service	\$28,306	\$31,576	\$36,061	\$45,728	\$50,205	\$50,854	\$52,777	\$56,814	\$64,622	\$70,548	\$78,496
<b>DEBT SERVICE COVERAGE (6)</b>											
First Lien Bonds	2.45	2.39	2.62	3.12	3.36	2.97	2.68	2.57	2.28	2.18	2.12
First and Second Lien Bonds	2.04	2.05	2.29	1.80	1.88	2.07	1.72	1.72	1.66	1.63	1.65
All Debt	1.92	2.05	2.29	1.80	1.88	2.07	1.72	1.72	1.66	1.63	1.65
<b>COVERAGE BASED ON STABILIZED NET REVENUES (7)</b>											
<b>NET REVENUES</b>	\$54,327	\$64,686	\$82,457	\$82,462	\$94,577	\$105,450	\$90,983	\$97,720	\$106,984	\$115,237	\$129,195
Less: Transfers to Rate Stabilization Account	-3,290	-1,560	-12,600	-	-2,500	-3,000	-	-	-	-	-
Plus: Transfers from Rate Stabilization Account	-	-	-	428	-	-	5,300	1,800	6,200	8,300	8,200
<b>STABILIZED NET REVENUES</b>	\$51,037	\$63,126	\$69,857	\$82,890	\$92,077	\$102,450	\$96,283	\$99,520	\$113,184	\$123,537	\$137,395
<b>DEBT SERVICE COVERAGE</b>											
First and Second Lien Bonds	1.91	2.00	1.94	1.81	1.83	2.01	1.82	1.75	1.75	1.75	1.75

Notes:

- (1) Forecast based on FY 2016-17 Adopted Budget.
- (2) As defined in the Master First Lien Bond Declaration. Operating expenses excludes a negative expense of \$12.8 million for FY 2014-15 and includes an expense of \$19.8 million for FY 2015-16 related to GASB 68. That treatment of these non-cash items results in the most conservative debt coverage calculation for both fiscal years. Effective with the issuance of the 2016 Series A Bonds and FY 2016-17, these non-cash GASB-related expenses will be excluded from Operating Expenses in calculating Net Revenues and debt service coverage. See definition of Operating Expenses in Master First Lien Bond Declaration.
- (3) Operating expenses include the Bureau's share of debt service for the City's pension obligation bonds and Post-Employment Retirement Benefits.
- (4) Includes projected issuance of First Lien Bonds in each fiscal year from FY 2017-18 through FY 2020-21 and projected issuance of 2016 Series A Bonds.
- (5) There are no outstanding General Obligations Bonds subsequent to the final principal payment on October 1, 2010.
- (6) The First Lien Bond debt service coverage ratio for FY 2015-16 would be 3.66 after adjusting for amendments incorporated in the Master First Lien Bond Declaration.
- (7) The Second Lien Rate Stabilization Account was created with the issuance of Second Lien Bonds in 2006.

Source: City of Portland.

## **FORECAST RATES AND CHARGES**

To generate the operating revenues in the Bureau's financial forecast, the Bureau will need to increase its user charges. The following table presents the approved rates for FY 2016-17 and projected rates for FY 2017-18 through FY 2020-21 that generate the required revenues. These rates are based on the revenue requirements from the Bureau's financial plan and the cost allocation methodology of its cost-of-service rate model.

The Bureau assesses both a volumetric usage charge and a fixed monthly base charge. The average volumetric charge for retail users is forecast to increase from \$4.216 per ccf in FY 2016-17 to \$5.729 per ccf by FY 2020-21. This increase corresponds to an average annual increase of 8.0 percent. A monthly base charge is imposed on water services connected directly to the Water System. Such base charge is in addition to the rates charged for water usage. The fixed monthly base charge accounts for approximately 22 percent of the Bureau's user charge revenues. The total fixed monthly base charge for quarterly billed customers is projected to increase from \$12.75 per month in FY 2016-17 to \$17.33 per month by FY 2020-21. The typical 5 ccf single residential family monthly water bill is projected to increase from \$33.83 in FY 2016-17 to \$45.98 in FY 2020-21.

**Table 21**  
**CITY OF PORTLAND, OREGON**  
**Water Bureau**  
**Current and Forecast Water Rates and Water Bills**

<b>Fiscal Year</b>					
<b>Ending June 30</b>	<b>2016-17 (1)</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>
<b>WATER USAGE RATES</b>					
Retail Volume Rate (per ccf) (2)	\$4.216	\$4.515	\$4.854	\$5.203	\$5.729
<b>BASE CHARGE</b>					
Quarterly Read Customer per Month	\$12.75	\$13.66	\$14.68	\$15.74	\$17.33
Monthly Read Customer	\$38.25	\$40.97	\$44.04	\$47.21	\$51.98
<b>MONTHLY WATER BILLS</b>					
Residential (5 ccf)	\$33.83	\$36.24	\$38.95	\$41.76	\$45.98
Medium Commercial (100 ccf)	\$460	\$493	\$530	\$568	\$625
Large Commercial (20,000 ccf)	\$84,358	\$90,361	\$97,138	\$104,133	\$114,652
Low Income Residential (5 ccf) (3)	\$16.91	\$18.12	\$19.47	\$20.88	\$22.99
<b>Retail Effective Rate Changes</b>	7.0%	7.1%	7.5%	7.2%	10.1%

Notes:

- (1) Reflects rate schedule approved by the City Council on June 1, 2016. Rates shown for future years are based on projections which may be updated or revised. Future year rates are subject to City Council review and approval.
- (2) Applies to substantially all in-city retail customers.
- (3) Bills for low income residential customers include a discount on water usage and the base charge.

Source: City of Portland.

## THE INITIATIVE PROCESS

The Oregon Constitution, Article IV, Section 1, reserves to the people of the State the initiative power to amend the State constitution or to enact State legislation by placing measures on the statewide general election ballot for consideration by the voters. Oregon law therefore permits any registered Oregon voter to file a proposed initiative with the Oregon Secretary of State's office without payment of fees or other burdensome requirements. Consequently, a large number of initiative measures are submitted to the Oregon Secretary of State's office, and a much smaller number of petitions obtain sufficient signatures to be placed on the ballot.

Because many proposed initiative measures are submitted that do not qualify for the ballot, the City does not formally or systematically monitor the impact of those measures or estimate their financial effect prior to the time the measures qualify for the ballot. Consequently, the City does not ordinarily disclose information about proposed initiative measures that have not qualified for the ballot.

### PROCESS FOR QUALIFYING STATE-WIDE INITIATIVES TO BE PLACED ON THE BALLOT

To place a proposed state-wide initiative on a general election ballot, the proponents must submit to the Secretary of State initiative petitions signed by the number of qualified voters equal to a specified percentage of the total number of votes cast for all candidates for governor at the gubernatorial election at which a governor was elected for a term of four years next preceding the filing of the petition with the Secretary of State. Any elector may sign an initiative petition for any measure on which the elector is entitled to vote. State-wide initiatives may only be filed for general elections in even-numbered years.

A state-wide initiative petition must be submitted to the Secretary of State not less than four months prior to the general election at which the proposed measure is to be voted upon. As a practical matter, proponents of an initiative have approximately two years in which to gather the necessary number of signatures. State law permits persons circulating initiative petitions to pay money to persons obtaining signatures for the petition.

Once an initiative measure has gathered a sufficient number of signatures and qualified for placement on the ballot, the State is required to prepare a formal estimate of the measure's financial impact. Typically, this estimate is limited to an evaluation of the direct dollar impact.

Historically, a larger number of initiative measures have qualified for the ballot than have been approved by the electors. According to the Elections Division of the Secretary of State, the total number of initiative petitions that qualified for the ballot and the numbers that passed in recent general elections are as follows:

**Table 22**  
**CITY OF PORTLAND, OREGON**  
**Statewide Initiative Petitions that Qualified and Passed**  
**2004-2016**

<b>Year of General Election</b>	<b>Number of Initiatives that Qualified</b>	<b>Number of Initiatives that Passed</b>
2004	6	2
2006	10	3
2008	8	0
2010	4	2
2012	7	2
2014	4	2
2016	4	3

Source: Elections Division, Oregon Secretary of State.

## **FUTURE STATE-WIDE INITIATIVE MEASURES**

The most recent election at which citizen initiatives may be placed on the statewide ballot was November of 2016. An initiative petition to amend the Oregon Constitution required signatures of at least 117,578 registered voters. An initiative to amend or create a statute required signatures of at least 88,184 registered voters. The deadline for filing signed petitions with the Oregon Secretary of State was July 8, 2016, and the Secretary of State determined whether petitions received sufficient signatures to qualify to be placed on the November 2016 ballot no later than August 7, 2016.

The Oregon Secretary of State announced that four initiative measures qualified to be placed on the November 8, 2016, statewide general election ballot in Oregon. Of these, three initiative measures passed, but none of these measures currently appear to have a direct and adverse effect on the Water System or the Net Revenues. However, the City cannot predict whether these measures may have long-term, indirect effects on the Water System or the Net Revenues.

The recent experience in Oregon is that many more initiative measures are proposed in some form than receive the number of signatures required to be placed on a ballot. Consequently, the City cannot accurately predict whether specific future initiative measures that may have an adverse effect on the City's financial operations will be proposed, obtain sufficient signatures, and be placed on a ballot for voter approval, or if placed on a ballot, will be approved by voters.

The Oregon Secretary of State's office maintains a list of all initiative petitions that have been submitted to that office. The office can be reached by telephone at (503) 986-1518.

## **LOCAL INITIATIVES**

### **Overview**

Article IV, Section 1 and Article XI, Section 2 of the Oregon Constitution and state statutes grant the voters in the City the initiative power to amend the City Charter or City ordinances, and to refer City ordinances. A petition to refer a City measure must be signed by six percent of the registered voters in the City. A petition to initiate a City measure must be signed by nine percent of the registered voters in the City. No initiative or referendum petitions are currently being circulated that would limit the financial powers of the City. The City Council or a Charter Commission may also refer measures directly to voters. Under current law, local initiative and referendum elections may be held only in March, May, September and November, unless the City Council calls for a special election due to public interest in prompt resolution.

## **TAX MATTERS**

### **OPINION OF BOND COUNSEL**

In the opinion of Hawkins Delafield & Wood LLP, Bond Counsel to the City, under existing statutes and court decisions and assuming continuing compliance with certain tax covenants described herein, (i) interest on the 2016 Series A Bonds is excluded from gross income for Federal income tax purposes pursuant to Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), and (ii) interest on the 2016 Series A Bonds is not treated as a preference item in calculating the alternative minimum tax imposed on individuals and corporations under the Code; such interest, however, is included in the adjusted current earnings of certain corporations for purposes of calculating the alternative minimum tax imposed on such corporations. In rendering its opinion, Bond Counsel has relied on certain representations, certifications of fact, and statements of reasonable expectations made by the City in connection with the 2016 Series A Bonds, and Bond Counsel has assumed compliance by the City with certain ongoing covenants to comply with applicable requirements of the Code to assure the exclusion of interest on the 2016 Series A Bonds from gross income under Section 103 of the Code.

In addition, in the opinion of Bond Counsel to the City, under existing statutes, interest on the 2016 Series A Bonds is exempt from State of Oregon personal income tax.

Bond Counsel expresses no opinion regarding any other Federal or state tax consequences with respect to the 2016 Series A Bonds. Bond Counsel renders its opinion under existing statutes and court decisions as of the issue date, and assumes no obligation to update, revise or supplement its opinion to reflect any action hereafter taken or not taken, or any facts or circumstances that may hereafter come to its attention, or changes in law or in interpretations thereof that may hereafter occur, or for any other reason. Bond Counsel expresses no opinion on the effect of any action hereafter taken or not taken in reliance upon an opinion of other counsel on the exclusion from gross income for Federal income tax purposes of interest on the 2016 Series A Bonds, or under state and local tax law.

## **CERTAIN ONGOING FEDERAL TAX REQUIREMENTS AND COVENANTS**

The Code establishes certain ongoing requirements that must be met subsequent to the issuance and delivery of the 2016 Series A Bonds in order that interest on the 2016 Series A Bonds be and remain excluded from gross income under Section 103 of the Code. These requirements include, but are not limited to, requirements relating to use and expenditure of gross proceeds of the 2016 Series A Bonds, yield and other restrictions on investments of gross proceeds, and the arbitrage rebate requirement that certain excess earnings on gross proceeds be rebated to the Federal government. Noncompliance with such requirements may cause interest on the 2016 Series A Bonds to become included in gross income for Federal income tax purposes retroactive to their issue date, irrespective of the date on which such noncompliance occurs or is discovered. The City has covenanted to comply with certain applicable requirements of the Code to assure the exclusion of interest on the 2016 Series A Bonds from gross income under Section 103 of the Code.

## **CERTAIN COLLATERAL FEDERAL TAX CONSEQUENCES**

The following is a brief discussion of certain collateral Federal income tax matters with respect to the 2016 Series A Bonds. It does not purport to address all aspects of Federal taxation that may be relevant to a particular owner of a 2016 Series A Bond. Prospective investors, particularly those who may be subject to special rules, are advised to consult their own tax advisors regarding the Federal tax consequences of owning and disposing of the 2016 Series A Bonds.

Prospective owners of the 2016 Series A Bonds should be aware that the ownership of such obligations may result in collateral Federal income tax consequences to various categories of persons, such as corporations (including S corporations and foreign corporations), financial institutions, property and casualty and life insurance companies, individual recipients of Social Security and railroad retirement benefits, individuals otherwise eligible for the earned income tax credit, and taxpayers deemed to have incurred or continued indebtedness to purchase or carry obligations the interest on which is excluded from gross income for Federal income tax purposes. Interest on the 2016 Series A Bonds may be taken into account in determining the tax liability of foreign corporations subject to the branch profits tax imposed by Section 884 of the Code.

## **BOND PREMIUM**

In general, if an owner acquires a 2016 Series A Bond for a purchase price (excluding accrued interest) or otherwise at a tax basis that reflects a premium over the sum of all amounts payable on the 2016 Series A Bond after the acquisition date (excluding certain “qualified stated interest” that is unconditionally payable at least annually at prescribed rates), that premium constitutes “bond premium” on that 2016 Series A Bond (a “Premium Bond”). In general, under Section 171 of the Code, an owner of a Premium Bond must amortize the bond premium over the remaining term of the Premium Bond, based on the owner’s yield over the remaining term of the Premium Bond determined based on constant yield principles (in certain cases involving a Premium Bond callable prior to its stated maturity date, the amortization period and yield may be required to be determined on the basis of an earlier call date that results in the lowest yield on such bond). An owner of a Premium Bond must amortize the bond premium by offsetting the qualified stated interest allocable to each interest accrual period under the owner’s regular method of accounting against the bond premium allocable to that period. In the case of a tax-exempt Premium Bond, if the bond premium allocable to an accrual period exceeds the qualified stated interest allocable to that accrual period, the excess is a nondeductible loss. Under certain circumstances, the owner of a Premium Bond may realize a taxable gain upon disposition of the Premium Bond even though it is sold or redeemed for an amount less than or equal to the owner’s original acquisition cost. Owners of any Premium Bonds should consult their own tax advisors regarding the treatment of bond premium for Federal income tax purposes, including various special rules relating thereto, and state and local tax consequences, in connection with the acquisition, ownership, amortization of bond premium on, sale, exchange, or other disposition of Premium Bonds.

## **INFORMATION REPORTING AND BACKUP WITHHOLDING**

Information reporting requirements apply to interest paid on tax-exempt obligations, including the 2016 Series A Bonds. In general, such requirements are satisfied if the interest recipient completes, and provides the payor with, a Form W-9, “Request for Taxpayer Identification Number and Certification,” or if the recipient is one of a limited class of exempt recipients. A recipient not otherwise exempt from information reporting who fails to satisfy the information reporting requirements will be subject to “backup withholding,” which means that the payor is required to deduct and withhold a tax from the interest payment, calculated in the manner set forth in the Code. For the foregoing purpose, a “payor” generally refers to the person or entity from whom a recipient receives its payments of interest or who collects such payments on behalf of the recipient.

If an owner purchasing a 2016 Series A Bond through a brokerage account has executed a Form W-9 in connection with the establishment of such account, as generally can be expected, no backup withholding should occur. In any event, backup withholding does not affect the excludability of the interest on the 2016 Series A Bonds from gross income for Federal income tax purposes. Any

amounts withheld pursuant to backup withholding would be allowed as a refund or a credit against the owner's Federal income tax once the required information is furnished to the Internal Revenue Service.

## **MISCELLANEOUS**

Tax legislation, administrative actions taken by tax authorities, or court decisions, whether at the Federal or state level, may adversely affect the tax-exempt status of interest on the 2016 Series A Bonds under Federal or state law or otherwise prevent beneficial owners of the 2016 Series A Bonds from realizing the full current benefit of the tax status of such interest. In addition, such legislation or actions (whether currently proposed, proposed in the future, or enacted) and such decisions could affect the market price or marketability of the 2016 Series A Bonds. For example, budgets proposed by the Obama Administration from time to time have recommended a 28% limitation on certain itemized deductions and other tax benefits, including tax-exempt interest. The net effect of such a proposal, if enacted into law, would be that an owner of a tax-exempt bond with a marginal tax rate in excess of 28% would pay some amount of Federal income tax with respect to the interest on such tax-exempt bond, regardless of issue date. The enactment of such proposal could impact the tax treatment of interest on the 2016 Series A Bonds for state law purposes.

Prospective purchasers of the 2016 Series A Bonds should consult their own tax advisors regarding the foregoing matters.

## **RATING**

The 2016 Series A Bonds have been rated "Aaa" by Moody's Investors Service. Such rating reflects only the view of that organization and any desired explanation of the significance of such rating should be obtained from the rating agency furnishing the same, at the following address: Moody's Investors Service, Inc., 250 Greenwich Street, New York, New York, 10007. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies and assumptions of its own. There is no assurance that any such ratings will continue for any given period of time or that such ratings will not be revised downward or withdrawn entirely by the rating agency concerned, if in the judgment of such rating agency, circumstances so warrant. Any such downward revision or withdrawal of any such ratings may have an adverse effect on the market price of the 2016 Series A Bonds.

## **FORWARD LOOKING STATEMENTS**

This Official Statement contains statements relating to future results that are "forward looking statements" as defined in the Private Securities Litigation Reform Act of 1995. When used in this Official Statement and its appendices, the words "estimate," "forecast," "intend," "expect," "projected," and similar expressions identify forward looking statements. Such statements are subject to risks and uncertainties that could cause actual results to differ materially from those contemplated in such forward looking statements. Any forecast is subject to such uncertainties. Therefore, there are likely to be differences between forecasts and actual results, and those differences may be material.

## **FINANCIAL ADVISOR**

The City has retained PFM Financial Advisors LLC ("PFM") to serve as its financial advisor in conjunction with the issuance of the 2016 Series A Bonds. PFM is expected to assist and advise the City on matters relating to the sale and structuring of the bonds, disclosure, ratings, pre-marketing of the bonds, post-sale analysis and other tasks at the discretion of the City. PFM has not audited, authenticated or otherwise verified the information set forth in this Official Statement with respect to the accuracy and completeness of disclosure of such information, and no guaranty, warranty, or other representation is made by PFM respecting the accuracy and completeness of this Official Statement.

## **LEGAL MATTERS**

Legal matters incident to the authorization, issuance and sale of the 2016 Series A Bonds by the City are subject to the approving opinion of Hawkins Delafield & Wood LLP, Portland, Oregon, Bond Counsel. Bond Counsel has reviewed this Official Statement only to confirm that the portions of it describing the 2016 Series A Bonds, the Master First Lien Bond Declaration, the 2016 Series A Bond Declaration, and the authority to issue the 2016 Series A Bonds conform to the 2016 Series A Bonds and the applicable laws under which they are issued. The statements made in this Official Statement under the captions "THE 2016 SERIES A BONDS" and "TAX MATTERS" have been reviewed and approved by Bond Counsel. All other representations of law and factual statements contained in this Official Statement, including but not limited to all financial and statistical information and representations contained herein, have not been reviewed or approved by Bond Counsel.



## LITIGATION

Members of the public and advocacy groups from time to time assert that they intend to file a legal action against the City challenging certain programs, laws or actions that the City, its officers or bureaus have taken. Because the City cannot be certain as to whether such actions will actually be filed, the legal assertions that may be made in a potential action or the remedy sought in terms of the amount of damages or performance requested of the City, the City includes as threatened litigation only situations in which the City is engaged in active settlement negotiations with a person or group in order to pre-empt filing of a lawsuit.

The City discloses only pending or threatened litigation that the City has determined may have a materially adverse impact on the financial position of the Bureau or the Water System. The current level of materiality involves litigation where the damages or performance sought has a reasonable probability of imposing liability of \$5 million or more against the Bureau or the Water System. Except as noted in the following paragraphs, there is no litigation pending or threatened against the City which would materially and adversely affect the financial condition of the Bureau or the Water System.

On December 6, 2011, the City was sued by a group of water and sewer ratepayers in *Anderson et al. v. City of Portland*, Multnomah County Circuit Court Case No. 1112-15957 (the “Anderson Case”). Plaintiffs challenged certain expenditures by the City's Water Bureau and Bureau of Environmental Services, alleging that the expenditures were not authorized by the City Charter and seeking to reimburse the Water Fund and Sewage Disposal Fund. Based on court rulings and City investigation to date, the City estimates that if plaintiffs prevailed on all claims and a court ordered the relief requested, the reimbursement amount could exceed \$50 million. The City has not identified potential sources of any court-ordered reimbursement, but such sources could include any legally available resources of the City, including the City's General Fund. This matter will go to trial on December 5, 2016, followed by a remedy phase in which the Court will ascertain what the City's financial liability will be. Because the City anticipates that any judgment will entail the transfer of funds to the water and sewer funds and not out of those funds, the City does not expect there to be an adverse effect of the Water System or its Net Revenues.

A 2012 court ruling, *NWEA v. EPA*, (U.S. D.C. Oregon, No. 05-1876, Opinion and Order, Feb. 28, 2012), declared that certain Oregon water temperature rules related to the protection of cold water fish, such as salmon and steelhead violate the federal Clean Water Act. The City previously received approval from the ODEQ for its Bull Run water supply operations under the challenged rules. The Court issued a follow-up opinion on October 14, 2016, but its impacts are still being assessed by attorneys for all parties. When replacement rules are promulgated, the DEQ may ask the City to review its operations in light of the new rules. Without knowing the exact nature of the new rules, it is difficult to gauge the ultimate outcome of such a review. Nonetheless, it seems likely that the standards will be tightened in some degree. In that case, the City may have to conduct additional analysis or further alter its operations to meet new requirements, both of which would impose additional costs on the Water System.

In 2000, Portland Harbor (located within the lower Willamette River between the Broadway Bridge and Kelly Point Park) was listed by the EPA as a federal Superfund site. The EPA notified the City that it may have liability for releases of contaminants in the Willamette River. The City may also have liabilities to Natural Resource Trustees of the Willamette River (including federal, state and tribal resource agencies) for damages to natural resources in Portland Harbor. On June 8, 2016, the EPA issued its Proposed Plan for the Portland Harbor Superfund Site, which estimates costs of approximately \$750 million to implement the preferred alternative. The costs associated with the remedy have not been allocated among the numerous potentially liable parties. The EPA states that it intends to issue a Record of Decision with the final selected remedy in December 2016. The Natural Resource Trustees have not made a final determination of the total damages to natural resources and those costs have not been allocated among the numerous potentially liable parties. The City is participating in voluntary, negotiated settlement processes to determine how cleanup costs can be allocated among all responsible parties. These processes cannot be concluded until a final remedy is selected by EPA and the parties reach an agreement or the liabilities are litigated. The City will defend against a significant allocation of liability to the City. Under Superfund law, responsible parties that fail to enter into agreements to remediate and restore Superfund sites become subject to legal action by the EPA to recover cleanup and restoration activity, including imposition of fines and other financially punitive measures. Once initiated, the remedial design and implementation phase is expected to be conducted and funded over many years. The City expects to have an extended period to identify funding strategies and to fund its share of the remedy.

## CERTIFICATE WITH RESPECT TO OFFICIAL STATEMENT

At the time of the original delivery of the 2016 Series A Bonds, the City will deliver a certificate to the Underwriters to the effect that the City has examined this Official Statement and the financial and other data concerning the City contained herein and that, to the best of the City's knowledge and belief, (i) this Official Statement, both as of its date and as of the date of delivery of the 2016 Series A Bonds, does not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, in light of the circumstances under which the statements were made, and (ii) between the date of this Official Statement and the date of delivery of the 2016 Series A Bonds, there has been no material change in the affairs (financial or otherwise), financial condition or results of operations of the City except as set forth in this Official Statement.

## MISCELLANEOUS

All quotations from and summaries and explanations of provisions of law herein do not purport to be complete, and reference should be made to said laws for full and complete statements of their provisions. This Official Statement is not to be construed as a contract or agreement between the City and the Underwriters or owners of any of the 2016 Series A Bonds. Any statements made in this Official Statement involving matters of opinion are intended merely as opinion and not as representations of fact. The information and expressions of opinion herein are subject to change without notice, and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the City or its agencies, since the date hereof.

## CONTINUING DISCLOSURE

Pursuant to SEC Rule 15c2-12, as amended (17 CFR Part 240, § 240.15c2-12) (the “Rule”), the City, as the “obligated person” within the meaning of the Rule, will execute and deliver a Continuing Disclosure Certificate substantially in the form attached hereto as APPENDIX G for the benefit of the 2016 Series A Bond holders.

Except as provided herein, in the previous five years, the City believes it has complied in all material respects with any previous continuing disclosure undertakings executed in connection with the Rule. Prior to July 2012, underlying ratings that were upgraded in connection with a new issuance of uninsured bonds may have been communicated via publication or posting of an Official Statement which included the upgraded rating, rather than posting of a separate notice. Additionally, the City has failed to provide certain financial information related to continuing disclosure undertakings executed in connection with multifamily housing revenue bonds issued by Home Forward, formerly the Housing Authority of Portland, for which the City executed subject-to-annual-appropriation contingent loan agreements in support of those bonds. The City has incorporated the filing of such information for the applicable Home Forward bonds into its post-issuance policies and procedures in order to maintain compliance with these continuing disclosure undertakings.

## CONCLUDING STATEMENT

This Official Statement has been deemed final by the City for purposes of Rule 15c2-12 of the Securities and Exchange Commission. The undersigned certifies that to the best of his knowledge and belief, (i) this Official Statement, both as of its date and as of the date of delivery of the 2016 Series A Bonds, does not contain any untrue statement of a material fact or omit any statement of a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, and (ii) between the date of this Official Statement and the date of delivery of the 2016 Series A Bonds there has been no material change in the affairs (financial or other), financial condition or results of operations of the City except as set forth in or contemplated by this Official Statement.

The execution and delivery of this Official Statement has been duly approved by the City.

## CITY OF PORTLAND, OREGON

By: /s/ ERIC H. JOHANSEN  
Debt Manager  
Office of Management and Finance

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**APPENDIX A**

**MASTER FIRST LIEN WATER SYSTEM  
REVENUE BOND DECLARATION**

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# **MASTER FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION**

**CITY OF PORTLAND, OREGON**

*Executed by the Debt Manager of the City of Portland, Oregon*

*As of the 15<sup>th</sup> day of December, 2016*

## **Table of Contents**

Section 1. Recitals.....	1
Section 2. Definitions .....	1
Section 3. Rules of Construction .....	8
Section 4. Deposit, Pledge and Use of Gross Revenues .....	8
Section 5. Bond Funds and Accounts .....	10
Section 6. Rate Covenant; Treatment of Capital Charges. ....	15
Section 7. Parity First Lien Obligations.....	17
Section 8. Subordinate Obligations .....	19
Section 9. Separate Utility System .....	20
Section 10. General Covenants .....	20
Section 11. Events of Default and Remedies.....	22
Section 12. Amendment of Master Declaration.....	24
Section 13. Defeasance .....	27
Section 14. BEO System.....	27
Section 15. Redemption of Bonds .....	29
Section 16. Authentication, Registration and Transfer.....	30
Section 17. Disposition of Bond Proceeds and Deposit to the Construction Fund .....	31
Section 18. Rights of Owners of Bonds Issued Before September 1, 2016.....	32

# MASTER FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION

THIS MASTER FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION is executed as of December 15, 2016, by the Debt Manager of the City of Portland, Oregon pursuant to the authority granted to the Debt Manager by City Ordinance No. 188045.

## **Section 1. Recitals.**

1.1 The City enacted Ordinance No. 166756 on July 21, 1993. That ordinance, as amended, (the “Master Water Bond Ordinance”) provides the terms under which the City has issued revenue bonds that are secured by a first lien on the net revenues of the City’s water system.

1.2 The Master Water Bond Ordinance allows the City to make certain amendments to it if the City obtains the consent of the owners of more than 51% of the Outstanding Bonds. The City has received the consent of the owners of more than 51% of Outstanding Bonds for a variety of amendments to the Master Water Bond Ordinance. The Master Water Bond Ordinance also gives the City the right to make any change to the Master Water Bond Ordinance which, in the reasonable judgment of the City, does not materially and adversely affect the rights of the owners of any Outstanding Bonds.

1.3 On October 19, 2016 the City enacted Ordinance No. 188045, authorizing the City to put into effect additional amendments to the Master Water Bond Ordinance that will benefit the City, and to convert the Master Water Bond Ordinance into a bond declaration.

1.4 The Debt Manager of the City executes this Master Declaration to amend the Master Water Bond Ordinance and convert it into this Master Declaration, effective as of [date]. This Master Declaration memorializes the terms under which the City may issue obligations that are secured by a first lien on the Net Revenues of the City’s Water System.

1.5 Pursuant to the authority granted to the Debt Manager by Ordinance No. 188045, the Debt Manager has determined that the amendments to the Master Water Bond Ordinance that are made by this Master Declaration consist entirely of: (i) amendments for which the City has obtained the consent of the owners of more than 51% of Outstanding Bonds, and (ii) amendments the Debt Manager has, on behalf of the City, reasonably judged do not materially and adversely affect the rights of the owners of any Outstanding Bonds.

## **Section 2. Definitions**

Capitalized terms used in this Master Declaration shall have the following meanings unless the context clearly requires use of a different meaning:

“Annual Debt Service” means the amount required to be paid in a Fiscal Year of principal and interest on any Outstanding Bonds, calculated as follows:

- Interest which is to be paid from Bond Proceeds shall be subtracted;

- City Payments to be made in the Fiscal Year under a Parity Derivative Product shall increase Annual Debt Service, and Reciprocal Payments to be received in the Fiscal Year under a Parity Derivative Product shall reduce Annual Debt Service;
- Bonds which are subject to scheduled, noncontingent redemption or tender shall be deemed to mature on the dates and in the amounts which are subject to mandatory redemption or tender, and only the amount scheduled to be outstanding on the final maturity date shall be treated as maturing on that date;
- Bonds which are subject to contingent redemption or tender shall be treated as maturing on their stated maturity dates; and
- Variable Rate Obligations bear interest from the date of computation until maturity at their Estimated Average Interest Rate.

“Audit” means the audit required by ORS 297.425.

“Auditor” means a person authorized by the State Board of Accountancy to conduct municipal audits pursuant to ORS 297.670.

“Base Period” means any twelve consecutive months selected by the City out of the most recent twenty-four months preceding the delivery of a Series of Parity First Lien Obligations.

“BEO” means “book-entry-only” and refers to a system for clearance and settlement of securities transactions through electronic book-entry changes, which eliminates the need for physical movement of securities.

“Bond Counsel” means a law firm having knowledge and expertise in the field of municipal law and whose opinions are generally accepted by purchasers of municipal bonds.

“Bondowner” or “Owner” means a registered owner of a Bond.

“Bonds” means obligations of the City that are secured by a first lien on the Net Revenues in accordance with City Ordinance 166756, as amended and restated, or this Master Declaration.

“Business Day” means any day except a Saturday, a Sunday, a legal holiday, a day on which the offices of banks in Oregon or New York are authorized or required by law or executive order to remain closed, or a day on which the New York Stock Exchange is closed.

“Capital Charges” means all systems development charges, assessments for local improvements and similar charges which have been imposed on persons or property to recover capital related costs of the Water System, and which are deposited in the Water Enterprise Fund.

“Capital Charge Obligations” means obligations which are secured by Capital Charges, and for which the City has made an election, in accordance with Section 6.4., to treat the net proceeds of the obligations as a Gross Revenue.

“Capital Charge Proceeds” means the net proceeds of Capital Charge Obligations. For purposes of this definition, “net proceeds” means the proceeds of the Capital Charge Obligations available to be deposited in the Water Enterprise Fund and used as Gross Revenues, after payment of costs



of issuance, credit enhancement fees, accrued and capitalized interest, and similar costs, and funding of reserves.

“Capital Charge Revenues” means all Capital Charges except Committed Capital Charges.

“Charter General Obligation Bond Account” means the Charter General Obligation Bond Account in the Sinking Fund described in Section 5.9.

“City Council” means the City Council of the City, or its successors.

“City Payment” means any scheduled payment required to be made by or on behalf of the City under a Derivative Product which is either fixed in amount or is determined according to a formula set forth in the Derivative Product.

“City” means the City of Portland, Multnomah, Washington and Clackamas Counties, Oregon, a municipal corporation of the State of Oregon.

“Code” means the Internal Revenue Code of 1986, as amended, including the rules and regulations promulgated thereunder.

“Committed Capital Charges” means Capital Charges which secure Capital Charge Obligations. For purposes of this definition, committing to pay obligations from Net Revenues shall not be treated as securing the obligations with Capital Charges, and Capital Charges which would otherwise be part of Gross Revenues shall not become Committed Capital Charges merely because Net Revenues are pledged to pay obligations.

“Construction Fund” means the Water Construction Fund in the Water Enterprise Fund, which the City has created to hold proceeds of bonds and other revenues related to capital improvements.

“Credit Facility” means a letter of credit, a municipal bond insurance policy, a surety bond, standby bond purchase agreement or other credit enhancement device which is obtained by the City to secure Bonds, and which is issued or provided by a Credit Provider whose long-term debt obligations or claims-paying ability (as appropriate) are rated one of the two highest rating categories by a Rating Agency which rated the Bonds secured by the Credit Facility.

“Credit Provider” means a person or entity providing a Credit Facility.

“Debt Manager” means the City’s Debt Manager, Chief Financial Officer and Director of the Bureau of Revenue and Financial Services, Chief Administrative Officer of the Office of Management and Finance, or the person designated by the Chief Administrative Officer of the Office of Management and Finance or the City Council to act as Debt Manager under this Master Declaration.

“Derivative Product” means a written contract between the City and a Reciprocal Payor under which the City is obligated to pay the City Payments in exchange for the Reciprocal Payor's obligation to pay Reciprocal Payments, and which provides that the Reciprocal Payments are to

be deposited directly into the Revenue Bond Account and that the City is not required to fulfill its obligations under the contract if:

- the Reciprocal Payor fails to make any Reciprocal Payment; or
- the Reciprocal Payor fails to comply with its financial status covenants.

“Direct Obligations” means direct obligations of the United States, and any obligations the payment of which is fully and unconditionally guaranteed by the United States.

“DTC” means The Depository Trust Company or any other qualified securities depository designated by the City as its successor.

“Estimated Average Interest Rate” is the interest rate that Variable Rate Obligations are assumed to bear, and shall be calculated as provide in Section 6.6.

“Event of Default” means any event specified in Section 11.2.

“Fiscal Year” means the period beginning on July 1 of each year and ending on the next succeeding June 30, or as otherwise defined by State Law.

“Fitch” means Fitch Investors Service, Inc., its successors and assigns.

“Gross Revenues” means all revenues, fees and charges, including Capital Charge Revenues and Capital Charge Proceeds, and other revenues resulting from the operation of the Water System, including revenues from product sales and interest earnings on Gross Revenues in the Water Enterprise Fund. However, the term “Gross Revenues” does not include:

(1) The interest income or other earnings derived from the investment of the Rebate Fund or any escrow fund established for the defeasance or refunding of outstanding indebtedness of the City;

(2) Committed Capital Charges;

(3) Any gifts, grants, donations or other moneys received by the City from any State or Federal Agency or other person if such moneys are restricted by law or the grantor to uses inconsistent with the payment of Bonds;

(4) The proceeds of any borrowing (other than Capital Charge Proceeds);

(5) The proceeds of any liability or other insurance (excluding business interruption insurance or other insurance of like nature insuring against the loss of revenues);

(6) The proceeds of any casualty insurance which the City intends to utilize for repair or replacement of the Water System;

(7) The proceeds derived from the sales of assets pursuant to Section 10.8;

(8) Any ad valorem or other taxes imposed by the City (except charges or payments for Water System services which become “taxes” within the meaning of Article XI, Section 11b of the Oregon Constitution only because they are imposed on property);

(9) Any income, fees, charges, receipts, profits or other moneys derived by the City from its ownership or operation of any Separate Utility System.

“Interest Payment Date” means any date on which Bond interest is scheduled to be paid, and any date on which Bonds are called for redemption.

“Master Declaration” means this Master First Lien Water System Revenue Bond Declaration, as it may be amended in accordance with its terms.

“Maximum Annual Debt Service” means the greatest Annual Debt Service, calculated on all Bonds which are Outstanding on the date of calculation.

“Moody's” means Moody's Investors Service, a corporation organized and existing under the laws of the State of Delaware, its successors and their assigns.

“Net Revenues” means the Gross Revenues less the Operating Expenses.

“Operating Expenses” means all costs which are properly treated as expenses of operating and maintaining the Water System under generally accepted accounting principles, including lease payments described in Section 10.9. However, Operating Expenses do not include:

- (1) Any rebates or penalties paid from Gross Revenues under Section 148 of the Code;
- (2) Payments of judgments against the City and payments for the settlement of litigation;
- (3) Depreciation and amortization of property values or losses, and other non-cash expenses;
- (4) All amounts treated for accounting purposes as payments for capital expenditures, and all amounts that were expected, at the time they were spent, to be treated for accounting purposes as payments for capital expenditures, such as expenditures for a project that was being constructed to satisfy regulatory requirements of a state or a federal agency, but were not so treated because the city subsequently obtained a variance allowing the city to terminate the project;
- (5) Debt service payments;
- (6) The expenses of owning, operating or maintaining any Separate Utility System; or
- (7) Franchise fees and similar charges imposed by the City on the Water System or its operations.

“ORS” means the Oregon Revised Statutes.

“Outstanding” refers to all Bonds authorized and delivered pursuant to this Master Declaration and any Supplemental Declaration except Bonds theretofore canceled or defeased pursuant to Section 13, and Bonds which have matured and not been presented for payment (provided sufficient funds to pay those Bonds have been transferred to the Paying Agent).

“Parity Derivative Product” means a Derivative Product which qualifies as a Parity First Lien Obligation in accordance with Section 7.3.

“Parity First Lien Obligation” means any obligation that is secured by a first lien on the Net Revenues and that is issued in accordance with Section 7. “Parity First Lien Obligation” includes any Parity Derivative Product.

“Payment Date” means a Principal Payment Date or an Interest Payment Date.

“Permitted Investments” means any investments which the City is permitted to make under the laws of the State. “Permitted Investments” do not include Reserve Credit Facilities.

“Principal Payment Date” means any date on which any Bonds are scheduled to be retired, whether by virtue of their maturity or by mandatory sinking fund redemption prior to maturity, and the redemption date of any Bonds which have been called for redemption.

“Project” means any purpose for which Gross Revenues may be spent.

“Qualified Consultant” means an independent engineer, an independent auditor, an independent financial advisor, or similar independent professional consultant of recognized standing and having experience and expertise in the area for which such person or firm is retained by the City for purposes of performing activities specified in this Master Declaration or any Supplemental Declaration.

“Rating Agency” means Fitch, Moody's, S&P, or any other nationally recognized financial rating Agency which has rated Outstanding Bonds or a Credit Facility at the request of the City.

“Reciprocal Payment” means scheduled payment to be made to, or for the benefit of, the City under a Derivative Product by or on behalf of the Reciprocal Payor, which is either fixed in amount or is determined according to a formula set forth in the Derivative Product.

“Reciprocal Payor” means a party to a Derivative Product (other than the City) that is obligated to make one or more Reciprocal Payments thereunder, and which has at least an investment grade rating from a Rating Agency for its obligations under the Derivative Product.

“Record Date” for the Bonds means the fifteenth (15th) day of the month preceding the month in which each Interest Payment Date occurs, whether or not a Business Day.

“Registrar” means the registrar and paying agent for the Bonds, which is U.S. Bank Trust National Association on the date of adoption of this Master Declaration.

“Reserve Credit Event” means the occurrence of any of the following: (a) the withdrawal or suspension of all Reserve Credit Facility Ratings for a Reserve Credit Facility; or (b) the downgrading of all Reserve Credit Facility Ratings for a Reserve Credit Facility below investment grade, or the equivalent rating reasonably determined by the City if rating terminology changes after September, 2016 (As of September, 2016, a rating below investment grade by Moody's is a rating below Baa3, and a rating below investment grade by S&P or Fitch is a rating below BBB-); or (c) the City properly tenders a request for funds under a Reserve Credit Facility, and the requested funds are not delivered materially in accordance with the terms of such Reserve Credit Facility.

“Reserve Credit Facility Rating” means a long-term debt, financial strength or claims-paying ability rating assigned by a Rating Agency to: (a) a provider of a Reserve Credit Facility or (b) to any guarantor or reinsurer of the obligations of a provider under a Reserve Credit Facility.

“Reserve Credit Facility” means a Credit Facility issued for the purpose of funding, in lieu of cash, all or any portion of the Reserve Requirement, under which the Credit Provider agrees to unconditionally provide the City with funds to transfer to the Revenue Bond Reserve Account if

amounts are required to be withdrawn from that account for deposit in the Revenue Bond Account.

“Reserve Requirement:” (a) for Bonds issued before September 1, 2016 and except as provided in Section 5.6, means the Tax Maximum for the Series of which those Bonds are a part, less any amount that is due to be added to a subaccount in the Revenue Bond Reserve Account but is not required to have been added on the date the Reserve Requirement is being calculated (such as contribution to a subaccount that is due in the future because a Reserve Credit Event has occurred); and (b) for a Series of Bonds issued on or after September 1, 2016 and except as provided in Section 5.6, means a set of rules for funding a subaccount in the Reserve Account as those rules are described in a Supplemental Declaration for that Series.

“Revenue Bond Account” means the Revenue Bond Account described in Section 5.2.

“Revenue Bond Reserve Account” means the Revenue Bond Reserve Account in the Sinking Fund described in Section 5.3.

“S&P” means S&P Global Inc., an American publicly traded corporation headquartered in New York City, its successors and their assigns.

“Separate Utility System” means any utility property which is declared by the City Council to constitute a system which is distinct from the Water System in accordance with Section 9.

“Series,” refers to all Bonds or Parity First Lien Obligations authorized by a single ordinance and delivered in exchange for payment on the same date, regardless of variations in maturity, interest rate or other provisions, unless a Supplemental Declaration provides otherwise.

“SIFMA Index” means the SIFMA Municipal Swap Index disseminated by Bloomberg, or its successor. However, if that index ceases to be available, “SIFMA Index” means an index reasonably selected by the City which is widely available to dealers in municipal securities, and which measures the interest rate of municipal securities that bear interest at short term or variable rates.

“Sinking Fund” means the Water Bond Sinking Fund in the Water Enterprise Fund, which the City has created to provide for the repayment of bonded debt and the interest on bonded debt.

“State” means the State of Oregon.

“Subordinate Obligations Account” means the Subordinate Obligations Account of the Water Enterprise Fund which is described in Section 5.8.

“Subordinate Obligations” means obligations having a lien on the Net Revenues which is subordinate to the lien of the Bonds. Restrictions on Subordinate Obligations are described in Section 8.

“Supplemental Declaration” means any Ordinance which supplements or amends this Master Declaration, entered into by the City in compliance with Section 12.

“Tax Maximum” means, for any Series of Bonds, the lesser of: the greatest amount of principal, interest and premium, if any, required to be paid in any Fiscal Year on such Series; 125% of average amount of principal, interest and premium, if any, required to be paid on such Series during all Fiscal Years in which such Series will be Outstanding, calculated as of the date of issuance of such Series; or, ten percent of the proceeds of such Series, as “proceeds” is defined for purposes of Section 148(d) of the Code.

“Valuation Date” means July 1 of each year (or the first Business Day thereafter, if July 1 is not a Business Day), and the Business Day following any transfer from the Revenue Bond Reserve Account to the Revenue Bond Account pursuant to Section 5.7A.

“Variable Rate Obligations” means any Bonds issued with a variable, adjustable, convertible, or other similar interest rate which changes during the term of the Bonds, and any City Payments or Reciprocal Payments under a Parity Derivative Product for which the interest portion of the payment is based on a rate that changes during the term of the Derivative Product.

“Water Enterprise Fund” means the collection of funds and accounts used by the City to hold the Gross Revenues and the proceeds of Bonds; it currently includes the Water Operating Fund, the Construction Fund, and the Sinking Fund.

“Water System” means all utility property now or hereafter used by the City to supply water within or without the corporate limits of the City, and any power generating facilities which are operated in connection with property which supplies water. However, the Water System does not include any Separate Utility System or the hydroelectric turbines and related facilities on the Bull Run River which were originally financed with the City's Hydroelectric Power Revenue Bonds which were issued in 1979 in the original principal amount of \$38,000,000 and the City's Hydroelectric Power Revenue Bonds, Series B which were issued in 1980 in the original principal amount of \$17,000,000 and any improvements to those turbines and facilities.

### **Section 3. Rules of Construction**

3.1 Words denoting a particular gender shall be deemed to refer to all genders.

3.2 Words in the singular shall be deemed to refer to both the singular and plural, and words in the plural shall be deemed to refer to both the plural and the singular.

3.3 References to a numbered section shall be deemed to refer to numbered sections of this Master Declaration unless the context clearly requires a different interpretation.

### **Section 4. Deposit, Pledge and Use of Gross Revenues**

4.1 All Gross Revenues shall be deposited to and maintained in the Water Enterprise Fund, and shall be used only as described in this Section as long as any Bonds remain Outstanding. Gross Revenues in the Water Enterprise Fund shall be used on or before the following dates for the following purposes in the following order of priority:

A. At any time to pay Operating Expenses which are then due;

- B. One Business Day prior to each Payment Date, the City shall credit Net Revenues to the Revenue Bond Account an amount sufficient (with amounts available in the Revenue Bond Account) to pay in full all Bond principal, interest and premium, if any, which is due to be paid on that Payment Date;
- C. On each date specified in a schedule for installment funding of an initial deposit to the Revenue Bond Reserve Account pursuant to a requirement in a Supplemental Declaration, Net Revenues in the amount specified in that schedule shall be deposited in the Revenue Bond Reserve Account;
- D. On the first day of each month, to the extent required by Section 5.7B for subaccounts in the Revenue Bond Reserve Account that were created before September 1, 2016, and to the extent required by comparable provisions in a Supplemental Declaration creating a subaccount in the Revenue Bond Reserve Account after September 1, 2016, the City shall deposit in the Revenue Bond Reserve Account the amount required to replenish the subaccounts in the Revenue Bond Reserve Account;
- E. On the day on which any rebates or penalties for Bonds are due to be paid to the United States pursuant to Section 148 of the Code, the City shall pay the amounts due from the Net Revenues;
- F. On the dates specified in any proceedings authorizing Subordinate Obligations, the City shall transfer to the Subordinate Obligations Account the Net Revenues required by those proceedings;
- G. One Business Day prior to any principal or interest payment date on City general obligation bonds issued pursuant to Section 11-103 of the City Charter, the City shall transfer to the Charter General Obligation Bond Account an amount sufficient to pay all principal, interest and premium, if any, due on those general obligation bonds on that payment date;
- H. After all transfers and payments having a higher priority under this Section have been made, Net Revenues shall be applied to any franchise fees and similar charges imposed by the City on the Water System or its operations.
- I. Not later than the last day of each succeeding fiscal year the City shall transfer Net Revenues to the Capital Renewal Account in an amount at least equal to the product of \$5,000,000 times the change in the consumer price index since fiscal year 1999-2000. The “change in the consumer price index” shall be calculated by dividing the Consumer Price Index-All Urban Consumers (Portland-Salem, OR-WA) for the most recently completed fiscal year by the Consumer Price Index-All Urban Consumers (Portland-Salem, OR-WA) for calendar year 1999. If the Consumer Price Index-All Urban Consumers (Portland-Salem, OR-WA) ceases to be available, the City shall select a reasonably comparable index of consumer prices.

- J. On any date, the City may spend Net Revenues for any other lawful purpose, but only if all deposits and payments having a higher priority under this Section have been made.

4.2 The City hereby pledges the Net Revenues to the payment of principal of, premium (if any) and interest on all Bonds. In addition, the City hereby pledges the Net Revenues available for transfer to the Revenue Bond Reserve Account to pay amounts due under any Reserve Credit Facility. Pursuant to ORS 288.594, these pledges of the Net Revenues hereby made by the City shall be valid and binding from the time of the adoption of this Master Declaration. The Net Revenues so pledged and hereafter received by the City shall immediately be subject to the lien of such pledge without any physical delivery or further act, and the lien of the pledge shall be superior to all other claims and liens whatsoever to the fullest extent permitted by ORS 288.594(2).

## **Section 5. Bond Funds and Accounts**

5.1 So long as Bonds are Outstanding, the City shall maintain the Revenue Bond Account, the Revenue Bond Reserve Account, the Subordinate Obligations Account and the Charter General Obligation Bond Account as discrete accounts in the Water Enterprise Fund. Unless the City restructures the funds and accounts in the Water Enterprise Fund, the Revenue Bond Account, the Revenue Bond Reserve Account, the Subordinate Obligations Account and the Charter General Obligation Bond Account shall be maintained in the Sinking Fund.

5.2 **Revenue Bond Account.** The Revenue Bond Account shall be held by the City. Until all Bonds are paid or defeased, amounts in the Revenue Bond Account shall be used only to pay Bonds. The City shall transfer sufficient amounts from the Revenue Bond Account to the Registrar in time to permit the Registrar to pay all Bond principal, interest and premium (if any) when due in accordance with the Bonds. Amounts in the Revenue Bond Account shall be invested only in Permitted Investments. Earnings on the Revenue Bond Account shall be credited to the Revenue Bond Account.

5.3 **Revenue Bond Reserve Account.** Amounts credited to the Revenue Bond Reserve Account shall be used only to pay Bonds, and only if amounts in the Revenue Bond Account and Net Revenues credited to other accounts in the Water Enterprise Fund are insufficient. The Revenue Bond Reserve Account shall be divided into subaccounts.

5.4 **First Subaccount in the Revenue Bond Reserve Account.** The City has created one subaccount (the "First Subaccount") to contain all amounts credited to the Revenue Bond Reserve Account for all Series of Bonds issued before January 1, 2003. All Bonds secured by the First Subaccount have been paid and the First Subaccount has been closed.

5.5 **Subaccounts in the Revenue Bond Reserve Account for Bonds issued after January 1, 2003 and before September 1, 2016.** The City has established separate subaccounts in the Revenue Bond Reserve Account for each Series of Bonds that were issued after January 1, 2003, and before September 1, 2016. Amounts in those subaccounts shall be used in accordance with this Section 5.7 only to pay Bonds that are part of the Series for which the subaccount is created.



**5.6 Securing Bonds Issued After September 1, 2016 with Subaccounts in the Revenue Bond Reserve Account Created Before September 1, 2016.** The City may elect to secure any Series of Bonds issued after September 1, 2016, with any subaccount in the Revenue Bond Reserve Account created before September 1, 2016, but only if the Supplemental Declaration for that Series of Bonds requires the City to fund that subaccount at the “Reserve Requirement,” as defined below in this Section 5.6.

“Reserve Requirement” means the lesser of Maximum Annual Debt Service on all Outstanding Bonds that are secured by a subaccount in the Revenue Bond Reserve Account, or the amount described in the next sentence. If, at the time of issuance of a Series of Bonds that will be secured by a subaccount in the Revenue Bond Reserve Account that was created before September 1, 2016, the amounts required to be added to that subaccount to make the balance in that subaccount equal to the Maximum Annual Debt Service exceeds the Tax Maximum calculated with respect to that Series of Bonds, then the Reserve Requirement for that subaccount shall mean the Reserve Requirement for that subaccount in effect on the date of issuance of the Series of Bonds (calculated as if the Series of Bonds being issued is not Outstanding), plus the Tax Maximum for the Series of Bonds. However, the City may elect to fund this Reserve Requirement for any Series of Bonds in equal annual installments over a period of five years. If the City makes this election for a Series of Bonds, or if the City is entitled by other provisions of this Master Declaration to replenish amounts in the Revenue Bond Reserve Requirement over time, the Reserve Requirement calculated for any particular date for that Series of Bonds shall be reduced by any installments which are not then due to be deposited in the Revenue Bond Reserve Account.

**5.7 Use of Amounts in Subaccounts Created Before September 1, 2016.** Amounts in subaccounts created before September 1, 2016 shall be used in accordance with this Section 5.7, but only to pay Bonds secured by those subaccounts:

- A. If, on any Payment Date the amounts on deposit in the Revenue Bond Account are insufficient to pay all Bond principal of, premium (if any) and interest due on that Payment Date, the City shall transfer Net Revenues in the Water Enterprise Fund (other than amounts in the Revenue Bond Reserve Account) to the Revenue Bond Account in an amount equal to the deficiency. If the City is unable to make the transfer described by the preceding sentence, then the City shall allocate the deficiency pro rata among the outstanding Series of Bonds for which a payment is due on that Payment Date, and shall transfer an amount equal to the allocated deficiency from each subaccount of the Revenue Bond Reserve Account securing those Series to the Revenue Bond Account.
- B. If the value of the investments in any subaccount of the Revenue Bond Reserve Account on a Valuation Date is less than the Reserve Requirement for that subaccount, the City shall begin making transfers of Net Revenues to all deficient subaccounts of the Revenue Bond Reserve Account in accordance with Section 4.1D.
  - i. Transfers to each subaccount of the Revenue Bond Reserve Account shall be applied first, to reimburse the Providers of any Reserve Credit

Facilities that were issued for any Series that is secured by that subaccount *pro rata* for amounts advanced under the Reserve Credit Facility; second, to replenish the balance in that subaccount with cash or Permitted Investments; and third to pay any other amounts owed under a Reserve Credit Facility that was issued for any Series that is secured by that subaccount (including any interest, fees and penalties associated with any draw under such a Reserve Credit Facility).

- ii. If the deficiency is due to a transfer from a subaccount of the Revenue Bond Reserve Account to the Revenue Bond Account pursuant to Section 5.7A, each transfer to that subaccount under Section 5.7B shall be at least equal to one twelfth of the difference between the applicable Reserve Requirement and the balance in the subaccount on the Valuation Date, the first transfer to that subaccount shall be made not later than the first day of the month following the Valuation Date associated with the transfer to the Revenue Bond Account, and subsequent transfers shall be made not later than the first day of each succeeding month. The “difference between the applicable Reserve Requirement and the balance in the subaccount on the Valuation Date” shall be calculated by including all amounts then owed under Reserve Credit Facilities that were issued for any Series that is secured by that subaccount, including any interest, fees and penalties associated with any draws under a Reserve Credit Facilities.
- iii. If the deficiency is due to a change in the value of Permitted Investments, each transfer to a subaccount in the Revenue Bond Reserve Account under Section 5.7B shall be at least equal to one fourth of the difference between the Reserve Requirement for that subaccount and the balance in that subaccount on the Valuation Date, the first transfer to that subaccount shall be made not later than the first day of the month following the Valuation Date, and subsequent transfers shall be made not later than the first day of each succeeding month.
- iv. If the deficiency is due to the occurrence of a Reserve Credit Event for a Reserve Credit Facility that is credited to a subaccount in the Revenue Bond Reserve Account, each transfer to that subaccount under Section 5.7B shall be at least equal to one fifth of the difference between the Reserve Requirement for that subaccount and the balance in that subaccount on the Valuation Date, the first transfer to that subaccount shall be made not later than the first anniversary of the first Valuation Date on which the Reserve Credit Event was taken into account, and subsequent transfers shall be made not later than each succeeding anniversary of that Valuation Date.

- C. If the value of the investments in any subaccount of the Reserve Account on a Valuation Date exceeds the applicable Reserve Requirement, the City may transfer the excess to any account of the Water Enterprise Fund.

- D. Moneys in the Revenue Bond Reserve Account may be invested only in Permitted Investments that mature no later than the final maturity date of the Bonds. Earnings on each subaccount of the Revenue Bond Reserve Account shall be credited to that subaccount whenever the balance in that subaccount is less than the applicable Reserve Requirement. Otherwise earnings shall be credited to the Revenue Bond Account.
- E. Permitted Investments in each subaccount of the Revenue Bond Reserve Account shall be valued on each Valuation Date in the following manner:
- i. Demand deposits, deposits in the Oregon Short Term Fund and investments which mature in two years or less after the Valuation Date shall be valued at their face amount, plus accrued interest;
  - ii. Investments which mature more than two years after the Valuation Date and for which bid and asked prices are published on a regular basis in the Wall Street Journal (or, if not there, then in the New York Times) shall be valued at the average of their most recently published bid and asked prices;
  - iii. Investments which mature more than two years after the Valuation Date and for which the bid and asked prices are not published on a regular basis in the Wall Street Journal or the New York Times shall be valued at the average bid price quoted by any two nationally recognized government securities dealers (selected by the City in its absolute discretion) at the time making a market in such investments or the bid price published by a nationally recognized pricing service;
  - iv. Reserve Credit Facilities shall be valued at the amount which is available to be drawn or paid under them;
  - v. Certificates of deposit and bankers acceptances which mature more than two years after the Valuation Date shall be valued at their face amount, plus accrued interest; and
  - vi. Any investment which is not specified above and which matures more than two years after the Valuation Date shall be valued at its fair market value as reasonably estimated by the City.
- F. For subaccounts in the Revenue Bond Reserve Account that were created before September 1, 2016, each Reserve Credit Facility credited to that subaccount shall be valued at the amount which is available to be drawn or paid under it unless a Reserve Credit Event has occurred and is continuing for that Reserve Credit Facility. If a Reserve Credit Event has occurred and is continuing for a Reserve Credit Facility, the affected Reserve Credit Facility shall be deemed to have no value.

- G. Withdrawals from each subaccount of the Revenue Bond Reserve Account shall be made in the following order of priority:
- i. **First**, from any cash credited to the subaccount;
  - ii. **Second**, from the liquidation proceeds of any Permitted Investments credited to the subaccount; and
  - iii. **Third**, from moneys drawn or paid pro-rata under any Reserve Credit Facilities that were issued for any Series that is secured by that subaccount.
- H. **Application to Final Payment.** All amounts on deposit in a subaccount of the Revenue Bond Reserve Account may be applied to the final payment (whether at maturity, by prior Redemption or by means of a defeasance as provided in 1.P hereof) of all Outstanding Bonds that are secured by that subaccount. Amounts so applied shall be credited against the amounts the City is required to transfer into the Revenue Bond Account under 1.B.1.b
- I. **Subaccounts in the Revenue Bond Reserve Account Created After September 1, 2016.** The City may choose whether to establish subaccounts in the Revenue Bond Reserve Account for Series of Bonds that are issued after September 1, 2016, and may establish the funding and maintenance requirements for those subaccounts (the “New Subaccounts”). The City may specify the minimum amount the City is required to maintain in any New Subaccount, and the provisions of this Master Declaration shall not be construed to require the City to maintain any particular balance in a New Subaccount. If the City creates a New Subaccount the City may also specify:
- i. Whether the New Subaccount may secure more than one Series of Bonds.
  - ii. Whether credit facilities or similar obligations may be credited to a New Subaccount, and how those credit facilities will be valued.
  - iii. The type of investments that may be credited to a New Subaccount and how those investments will be valued.
  - iv. The size and frequency of the periodic deposits that are required to replenish the New Subaccount. However, any deposits that are required to replenish a New Subaccount shall be made pro rata with deposits that are required to replenish other subaccounts in the Revenue Bond Reserve Account.
  - v. Any other matters relating to the deposit to and application of funds from each New Subaccount.

**5.8 Subordinate Obligations Account.** If the City issues Subordinate Obligations, the City shall create and maintain the Subordinate Obligations Account as long as the Subordinate Obligations are outstanding. The Subordinate Obligations Account may be divided into subaccounts, and the City may establish priorities for funding the subaccounts in the Subordinate Obligations Subaccount. Net Revenues shall be deposited into the Subordinate Obligations Account only as permitted by Section 4.1F. Earnings on the Subordinate Obligations Account shall be credited as provided in the proceedings authorizing the Subordinate Obligations.

**5.9 Charter General Obligation Bond Account.** The City shall maintain a Charter General Obligation Bond Account, into which it shall deposit Net Revenues sufficient to pay bonds issued under Section 11-103 of the City Charter as provided in Section 4.1E. Amounts may be withdrawn from the Charter General Obligation Bond Account to pay Bonds or Subordinate Obligations only if Net Revenues available in the Water Enterprise Fund are insufficient.

**5.10 Capital Renewal Account.** The Capital Renewal Account is hereby created within the Water Enterprise Fund. Net Revenues shall be transferred to the Capital Renewal Account as provided in Section 4.1I. Amounts in the Capital Renewal Account shall be used solely to pay for capital costs of the Water System, including costs repairing, replacing, improving and expanding the Water System. Earnings on the Capital Renewal Account shall be credited to the Water Enterprise Fund.

## **Section 6. Rate Covenant; Treatment of Capital Charges.**

**6.1** The City covenants for the benefit of the Owners that it will establish and maintain rates and charges in connection with the operation of the Water System which are sufficient to permit the City to pay all Operating Expenses and all lawful charges against the Net Revenues, and to make all transfers required by this Ordinance to the Revenue Bond Account, the Revenue Bond Reserve Account, the Subordinate Obligations Account, the Charter General Obligation Bond Account and the Capital Renewal Account, and to pay any franchise fees or similar charges imposed by the City on the Water System or its operations.

**6.2** The City covenants for the benefit of the Owners of all Bonds that it shall charge rates and fees in connection with the operation of the Water System which, when combined with other Gross Revenues, are adequate to generate Net Revenues each Fiscal Year at least equal to one hundred twenty-five percent (125.00%) of Annual Debt Service due in that Fiscal Year.

**6.3** Not later than ninety days after the end of each fiscal year the City shall file a certified report with the Debt Manager and the City Auditor which demonstrates whether the City has complied with 6.2 during that fiscal year. If the report demonstrates that the City has not complied with 6.2 during that fiscal year, it shall not constitute an Event of Default if:

- A. Within thirty days after the report is filed, the City engages the services of a Qualified Consultant;
- B. Within sixty days after the report is filed, the Qualified Consultant recommends a schedule of rates and charges or other actions which the Qualified Consultant

reasonably projects will permit the City to comply with Section 6.2 for the then current fiscal year; and,

- C. Within ninety days after the report is filed the City implements the recommendations of the Qualified Consultant.

6.4 The City may elect to treat Capital Charges in two ways: the Capital Charges may be treated as Gross Revenues; or, the City may exclude the Capital Charges from Gross Revenues, borrow money and issue obligations which are secured by those charges, and treat the net proceeds of the borrowing as Gross Revenues. Capital Charges which are treated as Gross Revenues are defined as “Capital Charge Revenues;” Capital Charges which are committed to pay obligations, the proceeds of which are treated as a Gross Revenue, are defined as “Committed Capital Charges;” the net proceeds of those obligations which are treated as Gross Revenues are defined as “Capital Charge Proceeds;” and the obligations which produce Capital Charge Proceeds are defined as “Capital Charge Obligations.” Capital Charge Revenues and the net proceeds of Capital Charge Obligations shall be deposited in the Water Enterprise Fund.

6.5 An election to treat an issue of obligations as Capital Charge Obligations may be made in the proceedings authorizing issuance of the Capital Charge Obligations; if it is not so made, it will be deemed made by the manner in which the proceeds of the obligations are treated in the report filed with the Debt Manager and the City Auditor pursuant to Section 6.3 of this ordinance for the year in which the obligations are issued. This election may be changed only if the City demonstrates that the change would not have caused the City to fail to meet the requirements of Section 6.2, in any fiscal year prior to the fiscal year in which the change is made, if the change had been made on the date the obligations were issued.

6.6 The Estimated Average Interest Rate for Variable Rate Obligations shall be calculated as provided in this Section.

- A. For purposes of calculating Annual Debt Service for the rate covenant in Section 6.2, the Estimated Average Interest Rate means the average SIFMA Index, expressed as an annualized interest rate, plus fifty basis points (0.50%), for the 52 week period that ends on or immediately before April 1 of the Fiscal Year that precedes the Fiscal Year in which that Estimated Average Interest Rate is used. For example: The City will determine the Estimated Average Interest Rate as of April 1, 2016, and that Estimated Average Rate shall be used to set the rates that are collected in the Fiscal Year 2016-2017 (the Fiscal Year that begins July 1, 2016) for all Variable Rate Obligations that are Outstanding during that Fiscal Year. At the beginning of Fiscal Year 2017-2018, the City will determine whether it complied with the rate covenants in Fiscal Year 2016-2017. The City will be deemed to have complied with the rate covenants in Fiscal Year 2016-2017 if the City collected Net Revenues that meet or exceed the requirements of Section 6.2, using the Estimated Average Interest Rate calculated as of April 1, 2016.
- B. For purposes of calculating Annual Debt Service for the tests for issuing Parity First Lien Obligations in Section 7.1D:

- i. Unless Section 6.6B.ii applies, the Estimated Average Interest Rate for any Series of Variable Rate Obligations means the average of the weekly Bond Buyer 20 Bond Index for the 52 week period that ends on or immediately before the last day of the month that precedes the month in which the Parity First Lien Obligations are sold, expressed as an annualized interest rate; or,
  - ii. For any Series of Variable Rate Bonds that have been outstanding for at least 52 weeks at the end of the period described in Section 6.6B.i, if the actual, annualized rate on that Series during that 52 week period is greater than the average, annualized rate described in Section 6.6B.i, the Estimated Average Interest Rate for that Series means the average of the actual rates on that Series during that 52 week period, expressed as an annualized interest rate.
- C. Unless a Supplemental Declaration provides to the contrary for a particular Series:
  - i. The Estimated Average Interest Rate for a Series of Parity First Lien Obligations for purposes of determining the Bond Reserve Requirement shall be the average of the weekly Bond Buyer 20 Bond Index for the 52 week period that ends on or immediately before the last day of the month that precedes the month in which the Parity First Lien Obligations are sold, expressed as an annualized interest rate.
  - ii. This calculation of Estimated Average Interest Rate shall be used for that Series of Parity First Lien Obligations as long as that Series of Parity First Lien Obligations is Outstanding.

## **Section 7. Parity First Lien Obligations**

7.1 The City may issue Parity First Lien Obligations to provide funds for any purpose relating to the Water System, but only if:

- A. No Event of Default under this Master Declaration or any Supplemental Declaration has occurred and is continuing;
- B. At the time of the issuance of the Parity First Lien Obligations there is no deficiency in the Revenue Bond Account, and the balance in the Revenue Bond Reserve Account is at least equal to the Reserve Requirement;
- C. The Supplemental Declaration authorizing the issuance of the Bonds contains a covenant requiring the City to charge rates and fees in connection with the operation of the Water System which, when combined with other Gross Revenues, are adequate to generate Net Revenues at least equal to one hundred twenty five percent (125.00%) of Annual Debt Service due in that Fiscal Year,

with the proposed Parity First Lien Obligations treated as Outstanding, in accordance with Section 6.2; and,

- D. There shall have been filed with the City either:
- i. A certificate of the Debt Manager stating that Net Revenues (adjusted as provided in the second sentence of this Section 7.1E) for the Base Period were not less than one hundred twenty-five percent (125.00%) of the average Annual Debt Service on all Outstanding Bonds, with the proposed Parity First Lien Obligations treated as Outstanding; or,
  - ii. A certificate or opinion of a Qualified Consultant stating:
    - (a) The amount of the Adjusted Net Revenues computed as provided in Section 7.1F below; and,
    - (b) That the amount shown in Section 7.1D.i is not less than the sum of one hundred twenty-five percent (125.00%) of the average Annual Debt Service on all Outstanding Bonds, with the Proposed Parity First Lien Obligations treated as Outstanding.
- E. Net Revenues may be adjusted for purposes of Section 7.1D.i by adding any Net Revenues the Debt Manager calculates the City would have had during the Base Period because of increases in Water System rates, fees and charges which took effect after the beginning of the Base Period. However, no adjustment shall be made for these increases unless they have been approved by the Council prior to delivery of the Proposed Parity First Lien Obligations and are required to take effect no later than sixty days after the delivery of the proposed Parity First Lien Obligations.
- F. Adjusted Net Revenues for purposes of Section 7.1D.ii shall be computed by adjusting the Net Revenues for the Base Period in any of the following ways:
- i. If the Bonds are being issued for the purpose of acquiring operating Water System utility properties having an earnings record, the Qualified Consultant may estimate the effect on the Net Revenues for the Base Period if the Water System utility properties had been part of the Water System during the Base Period. The estimate shall be based on the operating experience and records of the City and any available financial and records relating to the Water System utility properties which will be acquired;
  - ii. To reflect any changes in rates and charges have been adopted by the City Council and which
    - (a) Are in effect on the date of sale and delivery of the Bonds, or



- (b) Are to go into effect not later than twelve months after such date, and were not in effect during the entire Base Period;
- iii. To reflect any customers added to the Water System after the beginning of the Base Period and prior to the date of the Qualified Consultant's certificate; and
- iv. If extensions of or additions to the Water System are in the process of construction on the date of the Qualified Consultant's certificate, or if the proceeds of the Bonds being issued are to be used to acquire or construct extensions of or additions to the Water System, to reflect any additional Net Revenues not included in the preceding paragraphs that will be derived from such additions and extensions (after deducting the estimated increase in operating and maintenance expenses resulting from such additions and extensions).

7.2 The City may issue Parity First Lien Obligations to refund Outstanding Bonds without complying with Sections 7.1A, 7.1B, 7.1C, and 7.1D if the refunded Bonds are defeased on the date of delivery of the refunding Parity First Lien Obligations and if the Annual Debt Service on the refunding Parity First Lien Obligations does not exceed the Annual Debt Service on the refunded Bonds in any Fiscal Year by more than \$5,000.

7.3 A Derivative Product may be a Parity Derivative Product and a Parity First Lien Obligation if the obligation to make City Payments under the Derivative Product qualifies as a Parity First Lien Obligation under Section 7.1, after the Reciprocal Payments under the Derivative Product are applied to reduce Annual Debt Service. Any Parity Derivative Product shall clearly state that it is a Parity Derivative Product and has qualified as a Parity First Lien Obligation under Section 7.

7.4 All Parity First Lien Obligations issued in accordance with this Section shall have a lien on the Net Revenues which is equal to the lien of all other Outstanding Bonds.

## **Section 8. Subordinate Obligations**

The City may issue Subordinate Obligations only if:

8.1 The Subordinate Obligations are payable solely from amounts permitted to be deposited in the Subordinate Obligations Account pursuant to Section 4.1F;

8.2 The Subordinate Obligations are not subject to acceleration; and

8.3 The Subordinate Obligations state clearly that they are secured by a lien on or pledge of the Net Revenues which is subordinate to the lien on, and pledge of, the Net Revenues for the Bonds.

## **Section 9. Separate Utility System**

The City may declare property which the City owns and is part of the Water System (but has a value of less than five percent of the Water System at the time of the declaration), and property which the City has not yet acquired but would otherwise become part of the Water System, to be part of a Separate Utility System. The City may pay costs of acquiring, operating and maintaining Separate Utility Systems from Net Revenues, but only if there is no deficit in the Revenue Bond Account or the Revenue Bond Reserve Account. The City may issue obligations which are secured by the revenues produced by the Separate Utility System, and may pledge the Separate Utility System revenues to pay those obligations. In addition, the City may issue Subordinate Obligations to pay for costs of a Separate Utility System, and may pledge the revenues of the Separate Utility System to pay the Subordinate Obligations.

## **Section 10. General Covenants**

The City hereby covenants and agrees with the Owners of all Outstanding Bonds as follows:

10.1 That it will promptly cause the principal, premium, if any, and interest on the Bonds to be paid as they become due in accordance with the provisions of this Master Declaration and any Supplemental Declaration;

10.2 That it will maintain complete books and records relating to the operation of the Water System and all City funds and accounts in accordance with generally accepted accounting principles, and will cause such books and records to be audited annually at the end of each Fiscal Year, and an audit report prepared by the Auditor and made available for the inspection of Bondowners;

10.3 That it will not issue Bonds or other obligations having a claim superior to the claim of the Bonds upon the Net Revenues;

10.4 That it will promptly deposit into all funds and accounts all sums required to be so deposited;

10.5 That it shall cause the Water System to be operated at all times in a safe, sound, efficient and economic manner in compliance with all health, safety and environmental laws, regulatory body rules, regulatory body orders and court orders applicable to the City's operation and ownership of the Water System, and shall cause the Water System to be maintained, preserved, reconstructed, expanded and kept, with all appurtenances and every part and parcel thereof, in good repair, working order and condition, and shall from time to time cause to be made, without undue deferral, all necessary or proper repairs, replacements and renewals so that at all times the operation of the Water System shall be properly and advantageously conducted;

10.6 That it will not enter into any agreement to provide Water System products or services at a discount from published rate schedules, and that it will not provide free Water System products or services except for fire suppression and in case of emergencies;

10.7 That it will at all times maintain with responsible insurers all such insurance on the Water System as is customarily maintained with respect to works and properties of like character against accident to, loss of or damage to such works or properties;

- A. The net proceeds of insurance against accident to or destruction of the Water System shall be used to repair or rebuild the damaged or destroyed Water System, and to the extent not so applied, will be applied to the payment or redemption of the Bonds on a pro rata basis;
- B. Insurance described in Section 10.7 shall be in the form of policies or contracts for insurance with insurers of good standing and shall be payable to the City, or in the form of self-insurance by the City. The City shall establish such fund or funds or reserves which it deems are necessary to provide for its share of any such self-insurance;

10.8 The City will not, nor will it permit others to, sell, mortgage, lease or otherwise dispose of or encumber all or any portion of the Water System except:

- A. The City may dispose of all or substantially all of the Water System, only if the City pays all Bonds or defeases them pursuant to Section 13;
- B. Except as provided in Section 10.8C, the City will not dispose of any part of the Water System in excess of 5% of the value of the Water System in service unless prior to such disposition either:
  - i. There has been filed with the City a certificate of a Qualified Consultant stating that such disposition will not impair the ability of the City to comply with the rate covenants contained in Section 6.1; or
  - ii. Provision is made for the payment, redemption or other defeasance of a principal amount of Bonds equal to the greater of the following amounts:
    - (a) An amount which will be in the same proportion to the net principal amount of Bonds then Outstanding (defined as the total principal amount of Bonds then Outstanding less the amount of cash and investments in the Sinking Fund) that the Gross Revenues attributable to the part of the Water System sold or disposed of for the 12 preceding months bears to the total Gross Revenues for such period; or
    - (b) An amount which will be in the same proportion to the net principal amount of Bonds then Outstanding that the book value of the part of the Water System sold or disposed of bears to the book value of the Water System immediately prior to such sale or disposition;

- C. The City may dispose of any portion of the Water System that has become unserviceable, inadequate, obsolete, or unfit to be used or no longer necessary for use in the operation of the Water System;
- D. If the ownership of all or part of the Water System is transferred from the City through the operation of law, the City shall to the extent authorized by law, reconstruct or replace such transferred portion using any proceeds of the transfer unless the City Council reasonably determines that such reconstruction or replacement is not in the best interest of the City and the Bondowners, in which case any proceeds shall be used for the payment, redemption or defeasance of the Bonds;

10.9 The City may enter into operating leases and capital leases for assets relating to the Water System. Payments due under operating leases shall be treated as Operating Expenses. Payments due under capital leases shall be treated as Operating Expenses only if the capital leases have a term of ten years or less, and the total amount of lease payments under capital leases which are treated as Operating Expenses in a fiscal year does not exceed ten percent of the Operating Expenses for the prior fiscal year. For purposes of the preceding sentence, Operating Expenses shall be calculated by excluding any capital lease payments.

## **Section 11. Events of Default and Remedies**

11.1 **Continuous Operation Essential.** The City Council of the City hereby finds and determines that the continuous operation of the Water System and the collection, deposit and disbursement of the Net Revenues in the manner provided in this Master Declaration and in any Supplemental Declaration are essential to the payment and security of the Bonds, and the failure or refusal of the City to perform the covenants and obligations contained in this Master Declaration or any such Supplemental Declaration will endanger the necessary continuous operation of the Water System and the application of the Net Revenues to the operation of the Water System and the payment of the Bonds.

11.2 **Events of Default.** The following shall constitute “Events of Default”:

- A. If the City shall fail to pay any Bond principal or interest when due, either at maturity, upon exercise of a right of tender, by proceedings for redemption or otherwise;
- B. Except as provided in Sections 6.3 and 11.3, if the City shall default in the observance and performance of any other of its covenants, conditions and agreements in this Master Declaration, if such default continues for ninety (90) days after the City receives a written notice, specifying the Event of Default and demanding the cure of such default, from the Bondowners Committee or from the Owners of not less than 20% in aggregate principal amount of the Bonds Outstanding;
- C. If the City shall sell, transfer, assign or convey any properties constituting the Water System in violation of Section 10.8;

- D. If an order, judgment or decree shall be entered by any court of competent jurisdiction:
- i. Appointing a receiver, trustee or liquidator for the City or the whole or any part of the Water System;
  - ii. Approving a petition filed against the City seeking the bankruptcy, arrangement or reorganization of the City under any applicable law of the United States or the State; or
  - iii. Assuming custody or control of the City or of the whole or any part of the Water System under the provisions of any other law for the relief or aid of debtors and such order, judgment or decree shall not be vacated or set aside or stayed (or, in case custody or control is assumed by said order, such custody or control shall not be otherwise terminated) within sixty (60) days from the date of the entry of such order, judgment or decree; or
- E. If the City shall:
- i. Admit in writing its inability to pay its debts generally as they become due;
  - ii. File a petition in bankruptcy or seeking a composition of indebtedness under any state or federal bankruptcy or insolvency law;
  - iii. Make an assignment for the benefit of its creditors;
  - iv. Consent to the appointment of a receiver of the whole or any part of the Water System; or
  - v. Consent to the assumption by any court of competent jurisdiction under the provisions of any other law for the relief or aid of debtors of custody or control of the City or of the whole or any part of the Water System.

**11.3 Exception.** It shall not constitute an Event of Default under Section 11.2B if the default cannot practicably be remedied within ninety days after the city receives notice of the default, so long as the City promptly commences reasonable action to remedy the default after the notice is received, and continues reasonable action to remedy the default until the default is remedied.

**11.4 Remedies.** If an Event of Default occurs, any Bondowner may exercise any remedy available at law or in equity. However, the Bonds shall not be subject to acceleration.

**11.5 Books of City Open to Inspection.**

- A. The City covenants that if an Event of Default shall have happened and shall not have been remedied, the books of record and account of the City and all other records relating to the Water System shall at all reasonable times be subject to the inspection and use of the Bondowners Committee and any persons holding at

least twenty percent (20%) of the principal amount of Outstanding Bonds and their respective agents and attorneys.

- B. The City covenants that if the Event of Default shall happen and shall not have been remedied, the City will continue to account, as a trustee of an express trust, for all Net Revenues and other moneys, securities and funds pledged under the Master Declaration.

#### **11.6 Waivers of Event of Default.**

- A. No delay or omission of any Bondowner to exercise any right or power arising upon the happening of an Event of Default shall impair any right or power or shall be construed to be a waiver of any such Event of Default or to be an acquiescence therein; and every power and remedy given by this Section 11 to the Bondowners may be exercised from time to time and as often as may be deemed expedient by the Bondowners.
- B. The owners of not less than fifty percent (50%) in principal amount of the affected Bonds that are at the time Outstanding, or their attorneys-in-fact duly authorized, may, on behalf of the owners of all of affected Bonds, waive any past default under this Master Declaration with respect to such Bonds and its consequences, except a default in the payment of the principal of, premium, if any, or interest on any of the Bonds. No such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

#### **11.7 Remedies Granted in Master Declaration Not Exclusive.**

No remedy by the terms of the Master Declaration conferred upon or reserved to the Bondowners is intended to be exclusive of any other remedy, but each and every such remedy shall be cumulative and shall be in addition to every other remedy given under the Master Declaration or existing at law or in equity or by statute on or after the date of adoption of the Master Declaration.

### **Section 12. Amendment of Master Declaration**

12.1 This Master Declaration may be amended by Supplemental Declaration without the consent of any Bondowners for any one or more of the following purposes:

- A. To cure any ambiguity or formal defect or omission in this Master Declaration;
- B. To add to the covenants and agreements of the City in this Master Declaration, other covenants and agreements to be observed by the City which are not contrary to or inconsistent with this Master Declaration as theretofore in effect;
- C. To authorize issuance of Bonds or Subordinate Obligations;
- D. To authorize Parity Derivative Products, and specify the rights and duties of the parties to a Parity Derivative Product;

- E. To modify, amend or supplement this Master Declaration or any Supplemental Declaration to qualify this Master Declaration under the Trust Indenture Act of 1939, as amended, or any similar federal statute hereafter in effect or to permit the qualification of any Bonds for sale under the securities laws of any of the states of the United States of America;
- F. To confirm, as further assurance, any security interest or pledge created under this Master Declaration or any Supplemental Declaration;
- G. To make any change which, in the reasonable judgment of the City, does not materially and adversely affect the rights of the owners of any Outstanding Bonds;
- H. So long as a Credit Facility (other than a Reserve Credit Facility) is in full force and effect with respect to the Bonds affected by such Supplemental Declaration, to make any other change which is consented to in writing by the issuer of such Credit Facility other than any change which:
  - i. Would result in a downgrading or withdrawal of the rating then assigned to the affected Bonds by the Rating Agencies;
  - ii. Changes the maturity (except as permitted herein), the Interest Payment Dates, interest rates, redemption and purchase provisions, and provisions regarding notices of redemption and purchase applicable to the affected Bonds or diminishes the security afforded by such Credit Facility;
  - iii. Materially and adversely affects the rights and security afforded to the Owners of any Outstanding Bonds not secured by such Credit Facility; or
  - iv. To modify any of the provisions of this Master Declaration or any Supplemental Declaration in any other respect whatever, as long as the modification shall take effect only after all affected Outstanding Bonds cease to be Outstanding.

12.2 This Master Declaration may be amended for any other purpose only upon consent of Bondowners of not less than fifty-one percent (51%) in aggregate principal amount of the Bonds outstanding; provided, however, that no amendment shall be valid without the consent of Bondowners of 100 percent (100%) of the aggregate principal amount of the Bonds outstanding which:

- A. Extends the maturity of any Bond, reduces the rate of interest upon any Bond, extends the time of payment of interest on any Bond, reduces the amount of principal payable on any Bond, or reduces any premium payable on any Bond, without the consent of the affected Bondowner; or
- B. Reduces the percent of Bondowners required to approve amendatory Ordinances.

12.3 For purposes of Section 12.2, and subject to Section 12.4, the initial purchaser of a series of Bonds may be treated as the Owner of that Series at the time that series of Bonds is delivered in exchange for payment.

12.4 Except as otherwise expressly provided in a Supplemental Declaration, as long as a Credit Facility (other than a Reserve Credit Facility) securing all or a portion of any Outstanding Bonds is in effect, the issuer of such Credit Facility shall be deemed to be the Bondowner of the Bonds secured by such Credit Facility:

- A. At all times for the purpose of the execution and delivery of a Supplemental Declaration or of any amendment, change or modification of this Master Declaration or the initiation by Bondowners of any action which under this Master Declaration requires the written approval or consent of or can be initiated by the Bondowners of at least a majority in principal amount of the affected Bonds at the time Outstanding; and following an Event of Default for all other purposes;
- B. Notwithstanding the foregoing, the issuer of such Credit Facility shall not be deemed to be a Bondowner secured thereby with respect to any such Supplemental Declaration or of any amendment, change or modification of this Master Declaration which:
  - i. Would result in a downgrading or withdrawal of the rating then assigned to the affected Bonds by the Rating Agencies; or
  - ii. Changes the maturity (except as expressly permitted herein), the Interest Payment Dates, interest rates, redemption and purchase provisions, and provisions regarding notices of redemption and purchase applicable to the affected Bonds or diminishes the security afforded by such Credit Facility; or
  - iii. Reduces the percentage or otherwise affects the classes of affected Bonds, the consent of the Bondowners of which is required to effect any such modification or amendment.
- C. In addition and notwithstanding the foregoing, no issuer of a Credit Facility given as security for any Bonds shall be entitled to exercise any rights under this Section during any period where:
  - i. The Credit Agreement or Credit Facility to which such Credit Provider is a party shall not be in full force and effect;
  - ii. Such Credit Provider shall have filed a petition or otherwise sought relief under any federal or state bankruptcy or similar law;
  - iii. Such Credit Provider shall, for any reason, have failed or refused to honor a proper demand for payment under such Credit Facility; or



- iv. An order or decree shall have been entered, with the consent or acquiescence of such Credit Provider, appointing a receiver or receivers or the assets of the Credit Provider, or if such order or decree having been entered without the consent or acquiescence of such Credit Provider, shall not have been vacated or discharged or stayed within ninety (90) days after the entry thereof.
- D. For purposes of determining the percentage of Bondowners consenting to, waiving or otherwise acting with respect to any matter that may arise under this Master Declaration, the Owners of Bonds which pay interest only at maturity, and mature more than one year after they are issued shall be treated as Owners of Bonds in an aggregate principal amount equal to the accreted value of such Bonds as of the date the Registrar sends out notice of requesting consent, waiver or other action as provided herein.

### **Section 13. Defeasance**

13.1 The City may defease and deem all or any portion of the Outstanding Bonds to be paid by:

- A. Irrevocably depositing cash or noncallable, nonprepayable Direct Obligations in escrow with an independent escrow agent which are calculated to be sufficient for the payment of Bonds which are to be defeased; and,
- B. Filing with the escrow agent an opinion from a Qualified Consultant to the effect that the money and the principal and interest to be received from the Direct Obligations are calculated to be sufficient, without further reinvestment, to pay the defeased Bonds when due; and,
- C. Filing with the escrow agent an opinion of nationally recognized bond counsel that the proposed defeasance will not cause interest on the defeased Bonds to be includable in gross income under the Code.

13.2 If Bonds are defeased under this Section, all obligations of the City with respect to those defeased Bonds shall cease and terminate, except for the obligation of the City, the escrow agent and the Registrar to pay the defeased Bonds from the amounts deposited in escrow, and the obligation of the Registrar to continue to transfer bonds as provided in this Master Declaration.

### **Section 14. BEO System**

14.1 Unless required otherwise by a Supplemental Declaration, all Bonds shall be subject to the BEO System pursuant to the provisions of this Section 14

14.2 The Bonds shall be initially issued as a BEO security issue with no Bonds being made available to the Bondowners upon the execution and delivery of the letter of representations among the Registrar, DTC and the City. Ownership of the Bonds shall be recorded through entries on the books of banks and broker-dealer participants and correspondents that are related

to entries on the DTC BEO system. The Bonds shall be initially issued in the form of separate single fully registered typewritten Bonds for each maturity of the Bonds (the “Global Bonds”) in substantially the form attached hereto as Exhibit B with such changes as the Debt Manager may approve. Each Global Bond shall be registered in the name of CEDE & CO. as nominee (the “Nominee”) of DTC (DTC and any other qualified securities depository designated by the City as a successor to DTC, collectively the “Depository”) as the “Registered Owner”, and such Global Bonds shall be lodged with the Depository until early redemption or maturity of the Bond issue. The Registrar shall remit payment for the maturing principal and interest on the Bonds to the Bondowner for distribution by the Nominee for the benefit of the owners (the “Beneficial Owner” or “Record Owner”) by recorded entry on the books of the Depository participants and correspondents. While the Bonds are in BEO form, the Bonds will be available in denominations of \$5,000 or any integral multiple thereof.

14.3 In the event the Depository determines not to continue to act as securities depository for the Bonds, or the City determines that the Depository shall no longer so act, then the City will discontinue the BEO system with the Depository. If the City fails to designate another qualified securities depository to replace the Depository or elects to discontinue use of a BEO system, the Bonds shall no longer be a BEO issue but shall be registered in the registration books maintained by the Registrar in the name of the Bondowner as appearing on the Bond register and thereafter in the name or names of the Bondowners of the Bonds transferring or exchanging Bonds.

14.4 While the bonds are in BEO form, the City and the Registrar shall have no responsibility or obligation to any participant or correspondent of the Depository or to any Registered Owner on behalf of which such participants or correspondents act as agent for the Bondowner with respect to:

- A. The accuracy of the records of the Depository, the Nominee or any participant or correspondent with respect to any ownership interest in the Bonds;
- B. The delivery to any participant or correspondent or any other person, other than an Bondowner as shown in the registration books maintained by the Registrar, of any notice with respect to the Bonds, including any notice of prepayment;
- C. The selection by the Depository of the beneficial interest in Bonds to be redeemed prior to maturity; or
- D. The payment to any participant, correspondent, or any other person other than the owner of the Bonds as shown in the registration books maintained by the Registrar, of any amount with respect to principal of or interest on the Bonds.

14.5 Notwithstanding the BEO system, the City may treat and consider the Registered Owner in whose name each Bond is registered in the registration books maintained by the Registrar as the Bondowner and absolute owner of such Bond for the purpose of payment of principal and interest with respect to such Bond, or for the purpose of giving notices of redemption and other matters with respect to such Bond, or for the purpose of registering transfers with respect to such Bond, or for all other purposes whatsoever. The City shall pay or cause to be paid all principal and interest on the Bonds only to or upon the order of the Registered Owner, as shown in the

registration books maintained by the Registrar, or their respective attorneys duly authorized in writing, and all such payments shall be valid and effective to fully satisfy and discharge the City's obligation with respect to payment thereof to the extent of the sum or sums so paid.

14.6 Upon delivery by the Depository to the City and to the Bondowner of written notice to the effect that the Depository has determined to substitute a new nominee in place of the Nominee, then the word "Nominee" in this Master Declaration shall refer to such new nominee of the Depository, and upon receipt of such notice, the City shall promptly deliver a copy thereof to the Registrar. The Depository shall tender the Bonds it holds to the Registrar for reregistration.

## **Section 15. Redemption of Bonds**

15.1 Unless required otherwise by a Supplemental Declaration, all Bonds shall be subject to the redemption terms of this Section 15.

15.2 **Optional.** Unless otherwise provided in the documents under which a Series of Bonds is issued, if Bonds are subject to redemption the City reserves the right to redeem all or any portion of the Bonds, to select the maturities to be redeemed, and the dates on which Bonds are redeemed.

15.3 **Mandatory.** If Bonds are subject to mandatory redemption prior to maturity, the Registrar shall, without further action by the City, select the particular Bonds to be redeemed in accordance with the mandatory redemption schedule by lot, call the selected Bonds, and give notice of their redemption in accordance with this Section 15.

15.4 **Crediting Optional Redemptions and Purchases Toward Mandatory Redemption Requirement.** If certain maturities of Bonds are subject to both optional and mandatory redemption, the City may elect to apply any of those Bonds which it has previously optionally redeemed. In addition, if the City purchases Bonds which are subject to mandatory redemption, the City may elect to apply against the mandatory redemption requirement any such Bonds which it has previously purchased. If the City makes such an election, it shall notify the Registrar not less than sixty days prior to the mandatory redemption date to which the election applies.

15.5 **Notice of Redemption (Depository).** So long as the BEO-System remains in effect with respect to the Bonds, the City shall notify the Registrar of any early redemption not less than 20 days prior to the date fixed for redemption, the Registrar shall notify the Depository of any early redemption not less than 30 but no more than 60 days prior to the date fixed for redemption, and shall provide such information in connection therewith as required by the letter of representations submitted to DTC in connection with the issuance of the Bonds.

15.6 **Notice of Redemption (No Depository).** During any period in which the BEO System is not in effect with respect to the Bonds, unless waived by any Owner of the Bonds to be redeemed, official notice of any redemption of Bonds shall be given by the Registrar on behalf of the City by mailing a copy of an official redemption notice by first class mail postage prepaid at least 30 days and not more than 60 days prior to the date fixed for redemption to the Owner of

the Bond or Bonds to be redeemed, at the address shown on the Bond Register or at such other address as is furnished in writing by such owner to the Registrar. The City shall notify the Registrar of any intended redemption not less than 45 days prior to the redemption date. All such official notices of redemption shall be dated and shall state:

- A. The redemption date;
- B. The redemption price;
- C. If less than all Outstanding Bonds are to be redeemed, the identification (and, in the case of partial redemption, the respective principal amounts) of the Bonds to be redeemed;
- D. That on the redemption date the redemption price will become due and payable upon each such Bond or portion thereof called for redemption, and that interest thereon shall cease to accrue from and after said date; and
- E. The place where such Bonds are to be surrendered for payment of the redemption price, which place of payment shall be the principal office of the Registrar.

**15.7 Deposit of Funds.** The City shall deposit with the Registrar, on or before the redemption date, an amount of money sufficient to pay the redemption price of all the Bonds or portions of Bonds which are to be redeemed on that date.

**15.8 Effect of Redemption.** Official notice of redemption having been given as aforesaid, the Bonds or portions of Bonds to be redeemed shall, on the redemption date, become due and payable at the Redemption Price therein specified, and from and after such date (unless the City shall default in the payment of the redemption price) such Bonds or portions of Bonds shall cease to bear interest. Upon surrender of such Bonds for redemption in accordance with said notice, such Bonds shall be paid by the Registrar at the Redemption Price. Installments of interest due on or prior to the redemption date shall be payable as herein provided for payment of interest. Upon surrender for any partial redemption of any Bond, there shall be prepared for the registered owner a new Bond or Bonds of the same maturity in the amount of the unpaid principal. All Bonds which have been redeemed shall be canceled and destroyed by the Registrar and shall not be reissued. Notwithstanding that any Bonds called for redemption shall not have been surrendered, no further interest shall accrue on any such Bonds. From and after such notice having been given and such deposit having been made, the Bonds to be redeemed shall not be deemed to be Outstanding hereunder, and the City shall be under no further liability in respect thereof.

## **Section 16. Authentication, Registration and Transfer**

**16.1** The provisions of this Section 16 apply only if the Bonds cease to be a BEO issue, and unless otherwise specified in a Supplemental Indenture.

**16.2** No Bond shall be entitled to any right or benefit under this Master Declaration unless it shall have been authenticated by an authorized officer of the Registrar. The Registrar shall

authenticate all Bonds to be delivered at closing, and shall additionally authenticate all Bonds properly surrendered for exchange or transfer pursuant to this Master Declaration.

16.3 All Bonds shall be in registered form. Bank of America Oregon is hereby appointed to serve as Registrar for the Bonds. A successor Registrar may be appointed for the Bonds by ordinance or resolution of the City. The Registrar shall provide notice to Bondowners of any change in the Registrar not later than the Bond payment date following the change in Registrar.

16.4 The ownership of all Bonds shall be entered in the Bond register maintained by the Registrar and the City and Registrar may treat the person listed as owner in the Bond register as the owner of the Bond for all purposes.

16.5 The Registrar shall mail each interest payment on the Interest Payment Date (or the next Business Day if the Interest Payment Date is not a Business Day) to the name and address of the Bondowner, as that name and address appear on the Bond register as of the Record Date. If payment is so mailed, neither the City nor the Registrar shall have any further liability to any party for such payment.

16.6 Bonds may be exchanged for an equal principal amount of Bonds of the same maturity which are in different authorized denominations, and Bonds may be transferred to other owners if the Bondowner submits the following to the Registrar:

- A. Written instructions for exchange or transfer satisfactory to the Registrar, signed by the Bondowner or his attorney in fact and guaranteed or witnessed in a manner satisfactory to the Registrar; and
- B. The Bonds to be exchanged or transferred.

16.7 The Registrar shall not be required to exchange or transfer any Bonds submitted to it during any period beginning with a Record Date and ending on the next following payment date; however, such Bonds shall be exchanged or transferred promptly following the payment date.

16.8 The Registrar shall not be required to exchange or transfer any Bonds which have been designated for redemption if such Bonds are submitted to it during the fifteen-day period preceding the designated redemption date.

16.9 For purposes of this section, Bonds shall be considered submitted to the Registrar on the date the Registrar actually receives the materials described in Section 16.6.

16.10 The City may alter these provisions regarding registration and transfer by mailing notification of the altered provisions to all Bondowners. The altered provisions shall take effect on the date stated in the notice, which shall not be earlier than 45 days after notice is mailed.

## **Section 17. Disposition of Bond Proceeds and Deposit to the Construction Fund**

17.1 The Bond proceeds shall be applied as follows:

- A. Interest accrued from the date of the Bonds until the date of closing shall be placed in the Revenue Bond Account and used to pay Bond interest on the next Interest Payment Date.
- B. An amount of proceeds of the Bonds required to make the balance in the Revenue Bond Reserve Account equal to the Reserve Requirement shall be deposited in the Revenue Bond Reserve Account.
- C. The balance of the Bond proceeds shall be placed in the Construction Fund, and shall be disbursed only to finance Projects and costs incurred in connection with the issuance of the Bonds.

17.2 Earnings from investment of the funds in the Construction Fund shall be maintained in the Construction Fund, and shall be treated and disbursed as Bond proceeds. Construction Fund balances attributable to Bond proceeds which are not needed for the Projects may be transferred to the Revenue Bond Account.

**Section 18. Rights of Owners of Bonds Issued Before September 1, 2016.**

This Master Declaration eliminates references to particular Series of Bonds that were issued before September 1, 2016. The elimination of those references is not intended to affect the rights of the owners of those Bonds, or those Bonds shall mature, bear interest and be secured as provided in the documents under which those Bonds were issued, except as this Master Declaration expressly provides otherwise.

Dated as of the 15<sup>th</sup> day of December, 2016.

**City of Portland, Oregon**

By: \_\_\_\_\_  
Eric H. Johansen, Debt Manager

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**APPENDIX B**

**2016 SERIES A SUPPLEMENTAL FIRST LIEN BOND  
DECLARATION**

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**2016 SERIES A SUPPLEMENTAL  
FIRST LIEN WATER SYSTEM  
REVENUE BOND DECLARATION**

**City of Portland, Oregon**

**First Lien Water System Revenue and Refunding Bonds  
2016 Series A**

**Executed on behalf of the City of Portland, Oregon**

**As of the 15<sup>th</sup> of December, 2016**

## TABLE OF CONTENTS

<b>SECTION 1.</b>	<b>DEFINITIONS .....</b>	<b>1</b>
<b>SECTION 2.</b>	<b>2016 SERIES A BONDS AS “PARITY FIRST LIEN OBLIGATIONS” UNDER THE MASTER DECLARATION.....</b>	<b>2</b>
<b>SECTION 3.</b>	<b>BASIC TERMS OF THE 2016 SERIES A BONDS. ....</b>	<b>2</b>
<b>SECTION 4.</b>	<b>SECURITY FOR 2016 SERIES A BONDS.....</b>	<b>3</b>
<b>SECTION 5.</b>	<b>NO RESERVE SUBACCOUNT.....</b>	<b>4</b>
<b>SECTION 6.</b>	<b>REDEMPTION OF 2016 SERIES A BONDS.....</b>	<b>4</b>
<b>SECTION 7.</b>	<b>TAX COVENANTS.....</b>	<b>4</b>
<b>SECTION 8.</b>	<b>BOOK ENTRY SYSTEM.....</b>	<b>4</b>
<b>SECTION 9.</b>	<b>AUTHENTICATION, REGISTRATION AND TRANSFER.....</b>	<b>6</b>
<b>SECTION 10.</b>	<b>AMENDMENT OF 2016 SERIES A DECLARATION.....</b>	<b>7</b>
<b>SECTION 11.</b>	<b>DEFEASANCE. ....</b>	<b>7</b>
<b>SECTION 12.</b>	<b>FORM OF 2016 SERIES A BONDS.....</b>	<b>7</b>
<b>SECTION 13.</b>	<b>RULES OF CONSTRUCTION.....</b>	<b>7</b>
<b>SECTION 14.</b>	<b>RESERVATION OF RIGHT TO MAKE SUBSEQUENT AMENDMENTS. ....</b>	<b>7</b>
<b>Exhibit A: Form of First Lien Water System Revenue and Refunding Bond, 2016 Series A</b>		

# **2016 SERIES A SUPPLEMENTAL FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION**

THIS 2016 SERIES A SUPPLEMENTAL FIRST LIEN WATER SYSTEM REVENUE BOND DECLARATION is executed as of December 15, 2016, by the Debt Manager of the City of Portland, Oregon pursuant to the authority granted to the “Debt Manager” by City Ordinance No. 1884045 enacted by the City Council on October 19, 2016. That Ordinance authorizes the Debt Manager to execute a bond declaration to specify the terms under which the 2016 Series A Bonds are issued.

## **Section 1. Definitions**

Unless the context clearly requires otherwise, capitalized terms that are used in this 2016 Series A Declaration and are defined in this Section 1 shall have the meanings defined for those terms in this Section 1, and capitalized terms that are used in this 2016 Series A Declaration but are not defined in this Section 1 shall have the meanings defined for those terms in the Master Declaration.

“2016 Series A Declaration” means this 2016 Series A Supplemental First Lien Water System Revenue Bond Declaration.

“2016 Series A Bonds” means the City’s First Lien Water System Revenue and Refunding Bonds, 2016 Series A issued pursuant to Section 3 of this 2016 Series A Declaration.

“Authorizing Documents” means the Master Declaration, the Ordinance and this 2016 Series A Declaration.

“Business Day” means any day except a Saturday, a Sunday, a legal holiday, a day on which the offices of banks in Oregon or New York are authorized or required by law or executive order to remain closed, or a day on which the New York Stock Exchange is closed.

“Debt Manager” means the City’s Debt Manager, Chief Financial Officer and Director of the Bureau of Revenue and Financial Services, Chief Administrative Officer of the Office of Management and Finance, or the person designated by the Chief Administrative Officer of the Office of Management and Finance or the City Council to act as Debt Manager under the Master Declaration.

“Master Declaration” means the Master First Lien Water System Revenue Bond Declaration executed as of December 15, 2016, as it may in the future be amended and supplemented in accordance with its terms. The Master Declaration specifies the terms under which the City may issue revenue bonds that are secured by a first lien on the Net Revenues of the City’s Water System.

“Ordinance” means City Ordinance 188045 which was enacted by the City Council on October 19, 2016, and which authorizes the execution of this 2016 Series A Declaration and the issuance of the 2016 Series A Bonds.

“Record Date” means the first (1<sup>st</sup>) day of the month preceding the month in which an interest payment date for the 2016 Series A Bonds occurs, whether or not a Business Day.

“Refunded Bonds” means the refundable portion of the City’s First Lien Water System Revenue Refunding Bonds, 2006 Series B and the City’s First Lien Water System Revenue Bonds, 2008 Series A.

**Section 2. 2016 Series A Bonds as “Parity First Lien Obligations” under the Master Declaration.**

- 2.1. The 2016 Series A Bonds shall be “Bonds” and “Parity First Lien Obligations” as defined in the Master Declaration.
- 2.2. The City shall charge rates and fees in connection with the operation of the Water System which, when combined with other Gross Revenues, are adequate to generate Net Revenues at least equal to one hundred twenty five percent (125.00%) of Annual Debt Service due in that Fiscal Year, with the proposed Parity First Lien Obligations treated as Outstanding, in accordance with Section 6.2 of the Master Declaration.
- 2.3. Pursuant to Section 7.1.D.i of the Master Declaration I certify that:
  - A. No Event of Default under this Master Declaration or any Supplemental Declaration has occurred and is continuing;
  - B. At the time of the issuance of the Parity First Lien Obligations there is no deficiency in the Revenue Bond Account, and the balance in the Revenue Bond Reserve Account is at least equal to the Reserve Requirement;
  - C. Net Revenues (adjusted as provided in the second sentence of Section 6.1E of the Master Declaration) for the Base Period were not less than one hundred twenty five percent (125.00%) of the average Annual Debt Service on all Outstanding Bonds, with the 2016 Series A Bonds treated as Outstanding.

**Section 3. Basic Terms of the 2016 Series A Bonds.**

- 3.1. The 2016 Series A Bonds shall be in the aggregate principal amount of \$168,525,000, shall be dated December 15, 2016 shall mature on April 1 of the following years in the following principal amounts, and shall bear interest at the following rates per annum, calculated on the basis of a 360 day year consisting of twelve months of thirty days:

<u><b>Maturity Date</b></u> <u><b>(April 1)</b></u>	<u><b>Principal</b></u> <u><b>Amount (\$)</b></u>	<u><b>Interest</b></u> <u><b>Rate (%)</b></u>	<u><b>CUSIP Number</b></u> <u><b>(Base 736754)</b></u>
2017	2,375,000	2.00	NQ1
2018	9,305,000	5.00	NR9
2019	10,895,000	5.00	NS7
2020	11,435,000	5.00	NT5
2021	12,015,000	5.00	NU2
2022	5,135,000	5.00	NV0
2023	5,390,000	5.00	NW8
2024	5,665,000	5.00	NX6
2025	5,945,000	5.00	NY4
2026	6,240,000	5.00	NZ1
2027	6,555,000	4.00	PA4
2028	6,820,000	4.00	PB2
2029	7,090,000	4.00	PC0
2030	7,375,000	4.00	PD8
2031	7,665,000	4.00	PE6
2032	7,975,000	4.00	PF3
2033	8,290,000	4.00	PG1
2034	8,625,000	4.00	PH9
2035	4,270,000	4.00	PJ5
2036	4,440,000	4.00	PK2
2037	4,620,000	4.00	PL0
2038	4,805,000	4.00	PM8
2039	4,995,000	4.00	PN6
2040	5,195,000	4.00	PP1
2041	5,405,000	4.00	PQ9

- 3.2. The 2016 Series A Bonds are subject to redemption as provided in Section 6.
- 3.3. 2016 Series A Bond proceeds shall be used to refund the Refunded Bonds, to pay a portion of the costs of the capital improvement plan of the City's water system, including additions, improvements, and capital equipment that facilitate supply, treatment, transmission, storage, pumping, distribution, regulatory compliance, customer service and support, and to pay costs of related to the 2016 Series A Bonds.

#### **Section 4. Security for 2016 Series A Bonds.**

- 4.1. The 2016 Series A Bonds are "Bonds" and "Parity First Lien Obligations" as defined in the Master Declaration. The 2016 Series A Bonds are special obligations of the City that are payable solely out of, and secured solely by a pledge of, the Net Revenues and amounts required to be deposited in the funds and accounts established in the Master Declaration. Neither the full faith and credit nor the taxing powers of the City, the State of Oregon or any other political subdivision thereof is pledged to the payment of the principal of, premium (if any) or interest on the 2016 Series A Bonds. No Owner of any

2016 Series A Bond shall have the right to compel the City to exercise its taxing powers to pay any amounts owing under or with respect to the 2016 Series A Bonds.

4.2. The City shall apply the Net Revenues and other amounts that are pledged to pay the 2016 Series A Bonds as provided in the Master Declaration.

4.3. This 2016 Series A Declaration shall constitute a contract with the Owners.

#### **Section 5. No Reserve Subaccount.**

The City has not created any subaccount in the Reserve Account to secure the 2016 Series A Bonds.

#### **Section 6. Redemption of 2016 Series A Bonds.**

6.1. The 2016 Series A Bonds maturing on or after April 1, 2027, are subject to redemption at the option of the City on April 1, 2026, and on any date thereafter, in any order of maturity and by lot within a maturity, at a price of par, plus interest accrued to the date fixed for redemption.

6.2. In the case of any redemption of less than all of the outstanding 2016 Series A Bonds, the City shall have the right to specify the particular maturities to be redeemed and the aggregate principal amounts of each such maturity to be redeemed.

6.3. While the 2016 Series A Bonds are in BEO form the City shall give notice to DTC as provided in the rules and procedures of DTC. However, the City shall not be required to give DTC notice of redemption more than twenty days prior to the redemption date.

6.4. Any notice of optional redemption may state that the optional redemption will not occur if the City fails to provide the Paying Agent with moneys sufficient to pay the redemption price of the 2016 Series A Bonds that are being redeemed, or that the redemption will not occur if any other condition that is specified in the notice occurs. If a conditional notice of redemption is given and the City will not redeem 2016 Series A Bonds, the Paying Agent shall give notice to owners of the 2016 Series A Bonds that were to be redeemed as promptly as practicable.

#### **Section 7. Tax Covenants.**

The City covenants with the owners of the 2016 Series A Bonds to use the proceeds of the 2016 Series A Bonds and to otherwise comply with the provisions of the Code so that interest paid on the 2016 Series A Bonds will not be includable in gross income of the Owners for federal income tax purposes. The City specifically covenants to comply with its obligations in the “tax certificate” that has been prepared in connection with the closing of the 2016 Series A Bonds.

#### **Section 8. Book Entry System**

The 2016 Series A Bonds shall be initially issued in BEO form and shall be governed by this Section 8. While 2016 Series A Bonds are in BEO form no physical 2016 Series A Bonds shall

be provided to the Owners. A Blanket Issuer Letter of Representations (the “BLOR”) has been executed by the City and delivered to DTC. While the 2016 Series A Bonds are in BEO form, registration and transfer of beneficial interests in the 2016 Series A Bonds shall be governed by the BLOR and the Operational Arrangements of DTC, as they may be amended from time to time, as provided in the BLOR. So long as 2016 Series A Bonds are in BEO form:

- 8.1. DTC shall be treated as the Owner for all purposes, including payment and the giving of notices to Owners of 2016 Series A Bonds. 2016 Series A Bond payments shall be made, and notices shall be given, to DTC in accordance with the BLOR. Any failure of DTC to advise any of its participants, or of any participant to notify the beneficial owner, of any such notice and its content or effect will not affect the validity of the redemption of 2016 Series A Bonds called for redemption or of any other action premised on such notice.
- 8.2. The City may discontinue maintaining the 2016 Series A Bonds in the BEO form at any time. The City shall discontinue maintaining the 2016 Series A Bonds in BEO form if DTC determines not to continue to act as securities depository for the 2016 Series A Bonds, or fails to perform satisfactorily as depository, and a satisfactory substitute depository cannot reasonably be found.
- 8.3. If the City discontinues maintaining the 2016 Series A Bonds in BEO form, the City shall cause the Paying Agent to authenticate and deliver replacement 2016 Series A Bonds in fully registered form in authorized denominations in the names of the beneficial owners or their nominees; thereafter the provisions set forth in Section 9 below, regarding registration, transfer and exchange of 2016 Series A Bonds shall apply.
- 8.4. The City and the Paying Agent shall have no responsibility or obligation to any participant or correspondent of DTC or to any beneficial owner on behalf of which such participants or correspondents act as agent for the beneficial owner with respect to:
  - (A) the accuracy of the records of DTC, the nominee or any participant or correspondent with respect to any beneficial owner's interest in the 2016 Series A Bonds;
  - (B) the delivery to any participant or correspondent or any other person of any notice with respect to the 2016 Series A Bonds, including any notice of prepayment;
  - (C) the selection by DTC of the beneficial interest in 2016 Series A Bonds to be redeemed prior to maturity; or
  - (D) the payment to any participant, correspondent, or any other person other than the registered owner of the 2016 Series A Bonds as shown in the registration books maintained by the Paying Agent, of any amount with respect to principal, any premium or interest on the 2016 Series A Bonds.
  - (E) The provisions of this Section 8 may be modified without the consent of the beneficial owners in order to conform this Section to the standard practices of DTC or any successor depository for 2016 Series A Bonds issued in BEO form.

## **Section 9. Authentication, Registration and Transfer.**

- 9.1. No 2016 Series A Bond shall be entitled to any right or benefit under this 2016 Series A Declaration unless it shall have been authenticated by an authorized officer of the Paying Agent. The Paying Agent shall authenticate all 2016 Series A Bonds to be delivered at closing of the 2016 Series A Bonds, and shall additionally authenticate all 2016 Series A Bonds properly surrendered for exchange or transfer pursuant to this 2016 Series A Declaration.
- 9.2. The ownership of all 2016 Series A Bonds shall be entered in the 2016 Series A Bond register maintained by the Paying Agent, and the City and the Paying Agent may treat the person listed as owner in the 2016 Series A Bond register as the owner of the 2016 Series A Bond for all purposes.
- 9.3. While the 2016 Series A Bonds are in BEO form, the Paying Agent shall transfer 2016 Series A Bond principal and interest payments in the manner required by DTC.
- 9.4. If the 2016 Series A Bonds cease to be in BEO form, the Paying Agent shall mail each interest payment on the interest payment date (or the next Business Day if the payment date is not a Business Day) to the name and address of the Owners as they appear on the 2016 Series A Bond register as of the Record Date for the 2016 Series A Bonds. If payment is so mailed, neither the City nor the Paying Agent shall have any further liability to any party for such payment.
- 9.5. 2016 Series A Bonds may be exchanged for an equal principal amount of 2016 Series A Bonds of the same maturity which are in different denominations, and 2016 Series A Bonds may be transferred to other Owners if the Owner submits the following to the Paying Agent:
  - (A) written instructions for exchange or transfer satisfactory to the Paying Agent, signed by the Owner or attorney in fact and guaranteed or witnessed in a manner satisfactory to the Paying Agent and
  - (B) the 2016 Series A Bonds to be exchanged or transferred.
- 9.6. The Paying Agent shall not be required to exchange or transfer any 2016 Series A Bonds submitted to it during any period beginning with a Record Date and ending on the next following payment date; however, such 2016 Series A Bonds shall be exchanged or transferred promptly following that payment date.
- 9.7. The Paying Agent shall note the date of authentication on each 2016 Series A Bond. The date of authentication shall be the date on which the Owner's name is listed on the 2016 Series A Bond register.
- 9.8. For purposes of this Section 9, 2016 Series A Bonds shall be considered submitted to the Paying Agent on the date the Paying Agent actually receives the materials described in 9.5, above.



- 9.9. The City may alter these provisions regarding registration and transfer by mailing notification of the altered provisions to all Owners. The altered provisions shall take effect on the date stated in the notice, which shall not be earlier than 45 days after notice is mailed.

#### **Section 10. Amendment of 2016 Series A Declaration.**

This 2016 Series A Declaration is a part of the Master Declaration and may be amended in the same manner as the Master Declaration.

#### **Section 11. Defeasance.**

The 2016 Series A Bonds may be defeased as provided in Section J of the Master Declaration.

#### **Section 12. Form of 2016 Series A Bonds.**

The 2016 Series A Bonds shall be in substantially the form attached as Exhibit A and shall be signed with the facsimile or manual signature of the Mayor and the City Auditor.

#### **Section 13. Rules of Construction.**

In determining the meaning of provisions of this 2016 Series A Declaration, the following rules shall apply unless the context clearly requires application of a different meaning:

- 13.1. References to section numbers shall be construed as references to sections of this 2016 Series A Declaration.
- 13.2. References to one gender shall include all genders.
- 13.3. References to the singular shall include the plural, and references to the plural shall include the singular.

#### **Section 14. Reservation of Right to Make Subsequent Amendments.**

In addition to the rights the City has reserved under Section I of the Master Declaration, the City reserves the right to make any or all of the amendments to the Master Declaration that are described in this Section 14 without the consent of the Owners of the 2016 Series A Bonds. By purchasing 2016 Series A Bonds each Owner shall be deemed to have consented to any or all of the amendments described in this Section 14.

- 14.1. Amendments to the definitions of “Annual Debt Service” and “Combined Annual Debt Service” and related terms to reduce debt service, for purposes of the rate covenants and tests for issuing Parity Obligations, by the amount of federal interest subsidy payments that have been received or are expected to be received.
- 14.2. Amendments that pledge federal interest subsidy payments to pay First Lien Bonds.

- 14.3. Amendments deleting the requirement in Section 4.1.I of the Master Declaration that the City make a \$5 million annual contribution to the to the Capital Renewal Account.
- 14.4. Conforming amendments that are desirable to give effect to the amendments described in this Section 14.

Dated as of the 15<sup>th</sup> day of December, 2016.

**City of Portland, Oregon**

By: \_\_\_\_\_  
Eric H. Johansen, Debt Manager

Exhibit A

Form of 2016 Series A Bond

No. R-«BondNumber»

\$«PrincipalAmtNumber»

United States of America  
State of Oregon  
Counties of Multnomah, Washington and Clackamas  
**City of Portland**  
First Lien Water System Revenue and Refunding Bond  
2016 Series A

**Dated Date:** December 15, 2016

**Interest Rate Per Annum:** «CouponRate»%

**Maturity Date:** April 1, «MaturityYear»

**CUSIP Number:** 736754«CUSIPNumbr»

**Registered Owner:** -----Cede & Co.-----

**Principal Amount:** -----«PrincipalAmtSpelled» Dollars-----

The City of Portland, Oregon (the “City”), for value received, acknowledges itself indebted and hereby promises to pay to the Registered Owner hereof, or registered assigns, but solely from the sources described below, the Principal Amount indicated above on the Maturity Date indicated above together with interest thereon from the date hereof at the Interest Rate Per Annum indicated above, computed on the basis of a 360-day year of twelve 30-day months. Interest is payable semiannually on the first day of April and the first day of October in each year until maturity or prior redemption, commencing April 1, 2017. Payment of each installment of interest shall be made to the Registered Owner hereof whose name appears on the registration books of the City maintained by the City's paying agent and registrar, which is currently U.S. Bank National Association (the “Paying Agent”), as of the close of business on the first day of the month in which the applicable interest payment date occurs. For so long as this 2016 Series A Bond is subject to a book-entry-only system, principal and interest payments shall be paid in same-day funds on each payment date to the nominee of the securities depository for the 2016 Series A Bonds. On the date of issuance of this 2016 Series A Bond, the securities depository for the 2016 Series A Bonds is The Depository Trust Company, New York, New York, and Cede & Co. is the nominee of The Depository Trust Company. Such payments shall be made payable to the order of “Cede & Co.”

This 2016 Series A Bond is one of a duly authorized series of bonds of the City aggregating \$168,525,000 in principal amount designated as First Lien Water System Revenue and Refunding Bonds, 2016 Series A (the “2016 Series A Bonds”). The 2016 Series A Bonds are issued by the City for the purpose of refunding outstanding bonds of the City, paying capital costs of the City's Water System, and paying related to the 2016 Series A Bonds as authorized by City Ordinance No. 188045 of the City enacted on October 19, 2016 (the “Ordinance”), in strict accordance and compliance with all of the provisions of the Constitution and Statutes of the State of Oregon and the Charter of the City.

This 2016 Series A Bond is not a general obligation or liability of the City, and is payable solely from the Net Revenues of the Water System as provided in the Master First Lien Water System Revenue Bond Declaration executed as of December 15, 2016 as amended and supplemented (the “Master Declaration”), including the 2016 Series A Supplemental First Lien Water System Revenue Bond Declaration executed as of December 15, 2016 (the “2016 Series A Declaration”). The City covenants and agrees with the owner of this 2016 Series A Bond that it will keep and perform all of the covenants in this 2016 Series A Bond, in the 2016 Series A Declaration, and in the Master Declaration. The City has pledged the Net Revenues of the Water System to the payment of principal and interest on this 2016 Series A Bond.

The 2016 Series A Bonds are initially issued as a book-entry-only security issue with no certificates provided to the beneficial owners. Records of ownership of beneficial interests in the 2016 Series A Bonds will be maintained by The Depository Trust Company and its participants. Should the book-entry-only security system be discontinued, the 2016 Series A Bonds shall be issued in the form of registered bonds without coupons in denominations of \$5,000 or any integral multiple thereof. Such bonds may be exchanged for bonds of

the same aggregate principal amount, interest rate and maturity date, but different authorized denominations, as provided in the 2016 Series A Declaration.

The 2016 Series A Bonds are subject to maturity and redemption under the terms stated in the Official Statement and in the 2016 Series A Declaration.

Unless the book-entry-only system is discontinued, notice of any call for redemption shall be given as required by the Blanket Issuer Letter of Representations to The Depository Trust Company, as referenced in the Master Declaration and in the 2016 Series A Declaration. The City may make condition any redemption on the availability of funds or any other circumstance as provided in the 2016 Series A Declaration. The Paying Agent will notify The Depository Trust Company of any 2016 Series A Bonds called for redemption not less than 20 days prior to the date fixed for redemption. If the book-entry-only system is discontinued, the Paying Agent and the City shall provide for an alternative system of providing notice of redemption and such other matters as need to be updated for the 2016 Series A Bonds that is of general acceptance in the municipal bond markets. However, any failure to give notice shall not invalidate the redemption of the 2016 Series A Bonds.

Any exchange or transfer of this 2016 Series A Bond must be registered, as provided in the Master Declaration, upon the 2016 Series A Bond register kept for that purpose by the Paying Agent. The exchange or transfer of this 2016 Series A Bond may be registered only by surrendering it, together with a written instrument of exchange or transfer which is satisfactory to the Paying Agent and which is executed by the registered owner or duly authorized attorney. Upon registration, a new registered 2016 Series A Bond or 2016 Series A Bonds, of the same series and maturity and in the same aggregate principal amount, shall be issued to the transferee as provided in the Master Declaration. The Paying Agent and the City may treat the person in whose name this 2016 Series A Bond is registered as its absolute owner for all purposes, as provided in the Master Declaration.

Unless this 2016 Series A Bond is presented by an authorized representative of DTC to the City or the Paying Agent for registration of transfer, exchange or payment, and any 2016 Series A Bond issued is registered in the name of Cede & Co. or such other name as is requested by an authorized representative of DTC (and any payment is made to Cede & Co. or to such other entry as is requested by an authorized representative of DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL inasmuch as the registered owner hereof, Cede & Co., has an interest herein.

This 2016 Series A Bond shall remain in the Paying Agent's custody subject to the provisions of the FAST Balance Certificate Agreement currently in effect between the Paying Agent and The Depository Trust Company.

IT IS HEREBY CERTIFIED, RECITED, AND DECLARED that all conditions, acts, and things required to exist, to happen, and to be performed precedent to and in the issuance of this 2016 Series A Bond have existed, have happened, and have been performed in due time, form, and manner as required by the Constitution and Statutes of the State of Oregon; that the issue of which this 2016 Series A Bond is a part, and all other obligations of such City, are within every debt limitation and other limits prescribed by such Constitution, Statutes and City Charter.

IN WITNESS WHEREOF, the Council of the City of Portland, Oregon, has caused this 2016 Series A Bond to be signed by facsimile signature of its Mayor and attested by facsimile signature of its Auditor, and has caused a facsimile of the corporate seal of the City to be imprinted hereon, all as of the Dated Date indicated above.



**City of Portland, Oregon**

Charlie Hales, Mayor

Mary Hull Caballero, Auditor

THIS 2016 SERIES A BOND SHALL NOT BE VALID UNLESS PROPERLY  
AUTHENTICATED BY THE PAYING AGENT IN THE SPACE INDICATED BELOW.

CERTIFICATE OF AUTHENTICATION

This 2016 Series A Bond is one of a series of \$168,525,000 aggregate principal amount of First Lien Water System Revenue and Refunding Bonds, 2016 Series A, of the City, issued pursuant to the 2016 Series A Declaration and the Master Declaration both described herein.

Date of authentication: December 15, 2016

**U.S. Bank National Association**, as Paying Agent

\_\_\_\_\_  
Authorized Officer

ASSIGNMENT

FOR VALUE RECEIVED, the undersigned sells, assigns and transfers unto: \_\_\_\_\_

\_\_\_\_\_  
(Please insert social security or other identifying number of assignee)

this 2016 Series A Bond and does hereby irrevocably constitute and appoint \_\_\_\_\_  
\_\_\_\_\_ as attorney to transfer this 2016 Series A Bond on the books kept for  
registration thereof with the full power of substitution in the premises.

Dated: \_\_\_\_\_

NOTICE: The signature to this assignment must correspond with the name of the registered owner as it appears upon the face of this 2016 Series A Bond in every particular, without alteration or enlargement or any change whatever.

NOTICE: Signature(s) must be guaranteed by a member of the New York Stock Exchange or a commercial bank or trust company

Signature Guaranteed

\_\_\_\_\_  
(Bank, Trust Company or Brokerage Firm)

\_\_\_\_\_  
Authorized Officer

The following abbreviations, when used in the inscription on the face of this 2016 Series A Bond, shall be construed as though they were written out in full according to applicable laws or regulations.

TEN COM -- tenants in common

TEN ENT -- as tenants by the entireties

City of Portland, Oregon, First Lien Water System Revenue and Refunding Bond, 2016 Series A

2718072.5 040805 RSIND

JT TEN -- as joint tenants with right of survivorship and not as tenants in common  
OREGON CUSTODIANS use the following:

\_\_\_\_\_ CUST UL OREG \_\_\_\_\_ MIN  
as custodian for (name of minor)

OR UNIF TRANS MIN ACT

under the Oregon Uniform Transfer to Minors Act

Additional abbreviations may also be used though not in the list above.

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**APPENDIX C**

**EXCERPTS OF AUDITED FINANCIAL STATEMENTS**

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## **INTRODUCTION TO FINANCIAL STATEMENTS**

The following pages in this Appendix C are excerpted from the Comprehensive Annual Financial Reports of the City for the Fiscal Years ending June 30, 2012, through June 30, 2016.

The financial statements of the City have been audited by independent certified public accountants for the fiscal years 2012, 2013, 2014, 2015 and 2016. Copies of these financial statements containing the reports of the independent certified public accountants are available on the City's website at:

<http://www.portlandonline.com/omf/index.cfm?c=26053>

The City's website is listed for reference only, and is not part of this Official Statement.

**A CONSENT OF THE INDEPENDENT AUDITOR WAS NOT REQUESTED. THE AUDITOR WAS NOT REQUESTED TO PERFORM AND HAS NOT PERFORMED ANY SERVICE IN CONNECTION WITH THE OFFERING OF THE 2016 SERIES A BONDS AND IS THEREFORE NOT ASSOCIATED WITH THE OFFERING OF THE 2016 SERIES A BONDS.**



**CITY OF PORTLAND, OREGON**  
**Water Fund**  
**Statement of Revenues, Expenses, and Changes in Fund Net Position**  
**For the Years Ended June 30**

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Operating revenues:					
Service charges and fees	\$ 130,441,210	\$ 142,083,067	\$ 141,419,746	\$ 157,380,504	\$ 173,487,191
Service charges and fees provided internally	-	3,776,243	3,449,785	2,976,787	3,179,359
Miscellaneous	469,928	1,655,039	891,265	391,942	428,140
Total operating revenues	130,911,138	147,514,349	145,760,796	160,749,233	177,094,690
Operating expenses:					
Salaries and wages	38,308,147	35,947,904	36,039,039	23,071,213	58,594,493
Operating supplies	3,228,096	3,036,208	3,221,308	3,655,498	3,820,480
Professional services	18,406,542	1,141,427	1,368,457	1,581,177	1,430,391
Services and materials provided internally	-	16,047,159	16,023,162	16,279,698	17,538,439
Utilities	2,038,069	1,705,957	1,788,967	1,920,607	3,155,593
Miscellaneous	4,304,743	6,762,736	4,667,051	5,363,404	5,366,481
Utility license fees	4,279,884	5,356,663	5,528,579	6,007,691	6,536,256
Depreciation expense	22,290,243	22,804,040	25,870,266	25,747,919	29,029,736
Total operating expenses	92,855,724	92,802,094	94,506,829	83,627,207	125,471,869
Operating income (loss)	38,055,414	54,712,255	51,253,967	77,122,026	51,622,821
Nonoperating revenues (expenses):					
Gain (loss) on sale of capital assets	(697,064)	(2,166,229)	(2,497,943)	(1,150,129)	(2,788,130)
Investment earnings	541,346	273,524	1,504,424	1,003,061	1,849,415
Interest expense	(15,255,913)	(24,028,638)	(15,802,984)	(20,345,687)	(22,321,528)
Debt issuance costs	-	(1,385,515)	-	(252,949)	-
Miscellaneous	585,623	(316,023)	714,716	639,538	699,409
Total nonoperating revenues (expenses)	(14,826,008)	(27,622,881)	(16,081,787)	(20,106,166)	(22,560,834)
Income (loss) before contributions and transfers	23,229,406	27,089,374	35,172,180	57,015,860	29,061,987
Transfers in	140,008	159,692	-	119,083	35,000
Transfers out	(487,823)	(462,762)	(634,050)	(626,104)	(656,657)
Capital contributions	784,017	536,303	197,470	499,708	222,790
Income before special item	23,665,608	27,322,607	34,735,600	57,008,547	28,663,120
Special item:					
Capital asset write-off	(16,855,522)	-	-	-	-
Change in net position	6,810,086	27,322,607	34,735,600	57,008,547	28,663,120
Total net position -- beginning previously reported	-	-	-	492,451,439	511,948,823
Restatement per GASB 68 implementation	-	-	-	(37,511,163)	-
Total net position -- beginning	423,583,146	430,393,232	457,715,839	454,940,276	511,948,823
Total net position -- ending	\$ 430,393,232	\$ 457,715,839	\$ 492,451,439	\$ 511,948,823	\$ 540,611,943

Source: City of Portland. Audited financial statements.

**CITY OF PORTLAND, OREGON**  
**Water Fund**  
**Statement of Net Position (as of June 30)**

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
<b>ASSETS</b>					
Current assets (unrestricted):					
Cash and investments	\$ 64,626,887	\$ 67,487,424	\$ 80,318,903	\$ 86,861,714	\$ 109,603,859
Receivables					
Accounts, net	18,632,057	21,779,118	21,247,691	24,256,822	27,523,273
Assessments	210,364	197,076	239,908	299,408	306,645
Advances	2,804,400	307,848	245,568	227,328	267,763
Accrued interest	316,392	294,317	242,925	414,593	495,988
Due from other funds	380,883	8,175	8,175	8,175	-
Inventories	1,560,613	1,800,457	1,860,464	2,147,595	2,119,687
Prepaid expenses	-	-	-	-	-
Total current assets (unrestricted)	88,531,596	91,874,415	104,163,634	114,215,635	140,317,215
Current assets (restricted):					
Cash and investments	-	10,758,095	7,844,566	5,411,508	2,625,654
Total current assets (restricted)	-	10,758,095	7,844,566	5,411,508	2,625,654
Total current assets	88,531,596	102,632,510	112,008,200	119,627,143	142,942,869
Noncurrent assets (unrestricted):					
Capital assets, not being depreciated or amortized:					
Land	15,120,632	16,860,555	14,779,034	15,029,156	15,252,949
Construction in progress	120,727,125	202,876,706	223,600,474	92,044,177	81,303,435
Intangible assets/land use rights	2,315,561	2,594,272	2,622,487	3,211,842	3,525,180
Capital assets, being depreciated or amortized:					
Infrastructure	874,286,315	908,277,438	981,654,125	1,167,153,932	1,213,069,235
Buildings	37,283,939	34,372,090	61,143,415	78,186,859	80,571,820
Improvements to land	14,392,055	14,516,957	18,431,666	32,593,279	50,806,413
Machinery and equipment	28,870,122	29,938,384	32,056,168	32,336,697	34,994,539
Intangible assets/use, owning rights/software	1,420,803	3,002,052	3,077,235	3,219,925	3,622,231
Accumulated depreciation and amortization	(337,264,984)	(343,009,215)	(364,271,887)	(383,187,171)	(405,940,881)
Capital assets net of accumulated depreciation and amortization	757,151,568	869,429,239	973,092,717	1,040,588,696	1,077,204,921
Receivables:					
Assessments	51,626	183,540	219,858	251,946	269,510
Pension asset	20,335,394	19,167,811	18,000,228	10,056,132	-
Total non-current assets (unrestricted)	777,538,588	888,780,590	991,312,803	1,050,896,774	1,077,474,431
Noncurrent assets (restricted):					
Cash and investments	15,884,413	163,417,795	58,555,117	89,890,089	46,973,948
Total non-current assets	793,423,001	1,052,198,385	1,049,867,920	1,140,786,863	1,124,448,379
Total assets	881,954,597	1,154,830,895	1,161,876,120	1,260,414,006	1,267,391,248
<b>DEFERRED OUTFLOWS OF RESOURCES</b>					
Deferred outflows - pensions	-	-	-	3,301,241	5,906,769
Total deferred outflows of resources	-	-	-	3,301,241	5,906,769

**CITY OF PORTLAND, OREGON**  
**Water Fund**  
**Statement of Net Position (continued)**  
**As of June 30**

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
<b>LIABILITIES</b>					
Current liabilities (payable from unrestricted assets):					
Accounts payable	14,518,808	4,764,457	4,509,532	5,716,250	4,792,206
Compensated absences	3,544,030	3,801,472	4,073,326	4,149,020	4,163,216
Unearned revenue	244,142	233,659	264,952	256,915	337,384
Bonds payable	16,897,751	26,829,194	26,818,549	30,196,739	31,781,557
Notes and loans payable	282,195	-	-	-	-
Accrued interest payable - current	3,505,602	4,623,779	5,388,639	5,739,240	5,490,162
Pollution remediation	-	239,500	370,000	550,000	545,000
Self insurance claims	-	-	-	-	189,831
Other liabilities - current	39,753	-	-	-	134,138
Total current liabilities (unrestricted)	39,032,281	40,492,061	41,424,998	46,608,164	47,433,494
Current liabilities (payable from restricted assets):					
Accounts payable	-	10,758,095	7,844,566	5,411,508	2,625,654
Total current liabilities (restricted)	-	10,758,095	7,844,566	5,411,508	2,625,654
Total current liabilities	39,032,281	51,250,156	49,269,564	52,019,672	50,059,148
Noncurrent liabilities:					
Self insurance claims	-	-	-	-	937,090
Compensated absences	622,685	388,603	124,141	-	146,994
Bonds payable	402,710,996	634,977,346	608,158,798	665,979,141	634,197,583
Accrued interest payable	7,649,316	8,641,584	9,714,103	10,873,407	12,126,443
Net PERS liability	-	-	-	-	25,103,554
Other postemployment benefits	1,546,087	1,704,867	1,745,075	1,797,052	1,787,268
Pollution remediation	-	152,500	413,000	-	175,000
Total noncurrent liabilities	412,529,084	645,864,900	620,155,117	678,649,600	674,473,932
Total liabilities	451,561,365	697,115,056	669,424,681	730,669,272	724,533,080
<b>DEFERRED INFLOWS OF RESOURCES</b>					
Deferred inflows - pensions	-	-	-	20,102,011	7,312,227
Deferred charge for debt refunding	-	-	-	995,141	840,767
Total deferred inflows of resources				21,097,152	8,152,994
<b>NET POSITION</b>					
Net investment in capital assets	383,545,046	400,049,174	424,081,178	458,896,340	480,880,921
Restricted for debt service	-	-	-	-	-
Unrestricted	46,848,186	57,666,665	68,370,261	53,052,483	59,731,022
Total net position	\$ 430,393,232	\$ 457,715,839	\$ 492,451,439	\$ 511,948,823	\$ 540,611,943

Source: City of Portland. Audited financial statements.

**CITY OF PORTLAND, OREGON**  
**Water Fund**  
**Statement of Cash Flows**  
**For Fiscal Years Ended June 30**

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
<b>CASH FLOWS FROM OPERATING ACTIVITY</b>					
Receipts from customers and users	\$ 122,371,813	\$ 142,806,316	\$ 142,811,553	\$ 154,664,651	\$ 170,670,640
Receipts from interfund services provided	3,101,363	4,148,951	3,449,784	2,976,787	3,179,359
Payments to suppliers	(2,152,285)	(8,260,343)	(19,380,529)	(20,274,848)	(22,560,139)
Payments to employees	(36,755,255)	(34,598,181)	(34,823,855)	(35,833,980)	(38,678,712)
Payments for interfund services used	(24,324,537)	(24,684,143)	(16,023,163)	(16,279,698)	(17,538,437)
Other receipts (payments)	678,277	400,350	728,732	662,912	701,060
Net cash provided by operating activities	62,919,376	79,812,950	76,762,522	85,915,824	95,773,771
<b>CASH FLOW FROM NONCAPITAL FINANCING ACTIVITIES</b>					
Transfers in	140,008	159,692	-	16,999	35,000
Transfers out	(486,037)	(462,762)	(634,050)	(626,103)	(656,592)
Net cash provided (used) by noncapital financing activities	(346,029)	(303,070)	(634,050)	(609,104)	(621,592)
<b>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES</b>					
Proceeds from sale of bonds and notes	282,195	330,292,336	-	84,975,000	-
Premium on bonds and notes issued	-	37,517,171	-	7,642,900	-
Sale of capital/fixed assets	362,967	1,040,220	875,747	269,973	168,633
Acquisition of capital assets	(83,482,890)	(138,305,575)	(132,709,964)	(94,068,304)	(68,379,995)
Principal paid on bonds, notes and capital leases	(14,919,219)	(124,930,858)	(23,282,989)	(26,582,115)	(26,376,616)
Interest paid on bonds, notes and capital leases	(15,743,004)	(22,881,244)	(17,511,810)	(22,677,893)	(25,292,067)
Bond issuance costs	-	(1,385,515)	-	(252,949)	-
Net cash provided (used) by capital related financing activities	(113,499,951)	81,346,535	(172,629,016)	(50,693,388)	(119,880,045)
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>					
Interest on investments	657,939	295,599	1,555,816	831,393	1,768,016
Net increase (decrease) in cash and cash equivalents	(50,268,665)	161,152,014	(94,944,728)	35,444,725	(22,959,850)
<b>CASH AND CASH EQUIVALENTS July 1 (Beginning)</b>	130,779,965	80,511,300	241,663,314	146,718,586	182,163,311
<b>CASH AND CASH EQUIVALENTS June 30 (Ending)</b>	\$ 80,511,300	\$ 241,663,314	\$ 146,718,586	\$ 182,163,311	\$ 159,203,461
Reconciliation of Cash and Cash Equivalents to the Statements of Net Position:					
Unrestricted cash and cash equivalents	\$ 64,626,887	\$ 67,487,424	\$ 80,318,903	\$ 86,861,714	\$ 109,603,859
Restricted cash and cash equivalents	15,884,413	174,175,890	66,399,683	95,301,597	49,599,602
Total cash and cash equivalents	\$ 80,511,300	\$ 241,663,314	\$ 146,718,586	\$ 182,163,311	\$ 159,203,461

**CITY OF PORTLAND, OREGON**  
**Water Fund**  
**Statement of Cash Flows (continued)**  
**For Fiscal Years Ended June 30**

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
<b>Reconciliation of operating income (loss) to net cash provided by operating activities</b>					
Operating income (loss)	\$ 38,055,414	\$ 54,712,255	\$ 51,253,967	\$ 77,122,026	\$ 51,622,821
Adjustments to reconcile operating income (loss) to net cash provided (used) by operating activities:					
Depreciation and amortization of capital assets	22,290,243	22,804,040	25,870,266	25,747,919	29,029,736
Provision for uncollectible accounts	845,671	735,006	884,247	627,617	624,974
Nonoperating revenue	585,623	237,696	714,716	645,633	699,409
Change in assets and liabilities:					
Accounts and contracts receivable	(5,023,396)	(336,559)	797,894	4,234,000	6,099,471
Inventories	583,344	(239,844)	(60,007)	(287,131)	27,908
Accounts payable	5,351,950	1,003,744	(3,168,454)	(1,226,340)	(3,709,900)
Self insurance claims	-	-	-	-	1,126,921
Compensated absences	242,197	23,360	7,392	(48,447)	161,190
Due from (to) other funds	-	372,708	-	-	8,175
Unearned revenue	44,631	(10,483)	31,293	(8,037)	80,470
Net pension liability	-	-	-	-	25,103,554
Other liabilities	(199,413)	(39,753)	-	-	134,138
Pollution remediation	-	392,000	391,000	(233,000)	170,000
Accrued other postemployment benefits	143,112	158,780	40,208	51,977	(9,784)
Deferred outflows - pensions	-	-	-	(3,301,241)	(2,605,528)
Deferred inflows - pensions	-	-	-	20,102,011	(12,789,784)
Restatement per GASB 68 implementation	-	-	-	(37,511,163)	-
Net cash provided by operating activities	<u>\$ 62,919,376</u>	<u>\$ 79,812,950</u>	<u>\$ 76,762,522</u>	<u>\$ 85,915,824</u>	<u>\$ 95,773,771</u>
<b>Noncash information</b>					
Non-operating prepaid PERS amortization	(1,167,583)	(1,167,583)	(1,167,583)	-	-
Capital contribution	784,017	536,303	197,470	499,708	222,790
Other	(16,855,522)	-	-	-	272
Increase in fair value of investments (classified as cash equivalents)	(177,859)	(470,507)	483,009	(16,628)	478,555

Source: City of Portland. Audited financial statements.





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**APPENDIX D**

**CITY OPERATING AND FINANCIAL INFORMATION**

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## **CITY OPERATING AND FINANCIAL INFORMATION**

### **FISCAL YEAR**

July 1 to June 30.

### **BASIS OF ACCOUNTING**

The governmental fund types are reported using the current financial resources measurement focus and the modified accrual basis of accounting. The economic resources measurement focus and the accrual basis of accounting is used for all proprietary fund and fiduciary fund financial statements. The City's accounting practices conform to Generally Accepted Accounting Principles (GAAP) as interpreted by the Governmental Accounting Standards Board (the "GASB").

### **FINANCIAL REPORTING AND BUDGETING**

#### **Financial Reporting**

The City has been awarded the Government Finance Officers Association ("GFOA") Certificate of Achievement for Excellence in Financial Reporting every year since 1982. According to the GFOA, the Certificate of Achievement is the "highest form of recognition in the area of governmental financial reporting." To be awarded the certificate, a governmental unit must publish an easily readable and efficiently organized comprehensive financial report whose content conforms to program requirements and satisfies both generally accepted accounting principles and applicable legal requirements.

#### **Budget Process**

The City prepares annual budgets for all its bureaus and funds in accordance with provisions of Oregon Local Budget Law. The law provides standard procedures for the preparation, presentation, administration, and public notice for public sector budgets. At the outset of the process, the Mayor or the full City Council reviews overall goals, establishes priorities, and provides direction to bureaus. The Council conducts an extensive public information process to obtain direct public input on City service priorities, and most bureaus include key stakeholders in developing their budget requests.

In addition to this public outreach process, in January 2014, the City Council approved a five-year contract with the Citizens' Utility Board of Oregon (the "CUB"), an independent consumer advocacy nonprofit organization, to provide input regarding the City's water and sewer bureaus on behalf of residential customers. The CUB will provide recommendations to the City Council on capital spending, rates, and customer service issues. The CUB participated in the process for preparing the FY 2015-16 budgets of the Water and Environmental Services bureaus including reviewing documents and providing testimony at City Council rate hearings. On June 10, 2015, the City Council approved creation of the Portland Utility Board, a new citizen oversight panel that will replace the Portland Utility Review Board and budget advisory committees for the Portland Water Bureau and Bureau of Environmental Services. The Portland Utility Board will advise City Council regarding operations of the two utility bureaus, including development of bureau budgets and financial plans, capital spending, and rate setting.

A five-year General Fund financial forecast, which serves as the basis for determining resources available for budgeting, is also provided to the City Council along with budget requests. Major City bureaus generally prepare and submit five-year financial plans and Capital Improvement Plans. The City Budget Office coordinates the budget development process.

Bureau budget requests are reviewed by the Mayor and Council members, as well as a panel of community advisors. The Mayor develops a Proposed Budget that addresses City Council priorities, public input, and balancing requirements. Following presentation of the Proposed Budget, a community hearing is scheduled wherein public testimony is taken. A budget summary and notice of hearing are published prior to the hearings. The City Council, sitting as the Budget Committee, considers the testimony from the community and can alter the budget proposal before voting to approve the budget.

The City Council transmits the Approved Budget to the Tax Supervising and Conservation Commission (the "TSCC"), an oversight board appointed by the governor, for public hearing and review for compliance with budget law. Upon certification by the TSCC, the City Council holds a final public hearing prior to adoption. Final adoption of the City's budget is required to be through a vote of the Council no later than June 30. All committee meetings and budget hearings are open to the public.

## **AUDITS**

The Oregon Municipal Audit Law (ORS 297.405 - 297.555) requires an audit and examination be made of the accounts and financial affairs of every municipal corporation at least once each year. The audit shall be made by accountants whose names are included on the roster prepared by the State Board of Accountancy. Moss Adams LLP has performed auditing services for FY 2002-03 through FY 2015-16.

A complete copy of the City's FY 2015-16 audit is available on the Electronic Municipal Market Access (EMMA) system for municipal securities disclosure established by the MSRB and accessible at <http://emma.msrb.org>.

## **INSURANCE**

The City is self-insured for workers' compensation, general liability claims and certain employees' medical coverage in internal service funds. The Oregon Tort Claims Act (ORS 30.260 to 30.300) limits certain claims against the City for personal injury, death and property damage or destruction as described below. Claims under federal jurisdiction are not subject to such limitations.

The City estimates liability for incurred losses for reported and unreported claims for workers' compensation, general and fleet liability and employee medical coverage (included in accrued self-insurance claims in the combined statement of net assets). Workers' compensation, general and fleet liability estimates are primarily based on individual case estimates for reported claims and through historical data for unreported claims as determined by the City's Risk Management Services and independent actuarial studies. Liabilities are based on estimated ultimate cost of settling claims, including effects of inflation and other societal and economic factors. Estimated liability is then discounted by the City's expected rate of return and anticipated timing of cash outlays to determine present value of the liability. For fiscal year ending June 30, 2015, the expected rate of return used was 0.50 percent. For fiscal year ending June 30, 2016, the expected rate of return used was 0.50 percent and for subsequent years, the expected rate of return was 0.60 percent. The Bureau of Human Resources and the employee benefits consultant determines relevant employees' medical coverage estimates.

The City provides insurance coverage that the City deems to be adequate, appropriate, and actuarially sound to meet the City's anticipated settlements, obligations and outstanding liabilities as described above. Current levels of accrued claims and retained earnings are viewed as reasonable provisions for expected future losses. The City purchases commercial insurance for claims in excess of coverage provided by the self-insurance fund. An excess liability coverage insurance policy covers occurrences in excess of \$1,000,000 to policy limits for covered loss excluding law enforcement liability. Effective November 12, 2013, the excess liability for law enforcement requires a \$2.5 million retention before insurance begins coverage. An excess workers' compensation coverage insurance policy covers claims in excess of \$850,000 for occurrences after July 1, 2012.

### **Personal Injury and Death Claim**

Under ORS 30.272, the liability of a local public body and its officers, employees and agents acting within the scope of their employment or duties, to any single claimant for covered personal injury or death claims (and not property claims) arising out of a single accident or occurrence may not exceed \$666,700 for causes of action arising on or after July 1, 2014, and before July 1, 2015. The liability limits to all claimants for covered personal injury or death claims (and not property claims) arising from a single accident or occurrence increases to \$1,333,300 for causes of action arising on or after July 1, 2014, and before July 1, 2015. For causes of action arising on or after July 1, 2015 and before July 1, 2016, limitations increase to \$682,800 for single claimant and \$1,365,500 for multiple claimants.

### **Property Damage or Destruction Claim**

Under ORS 30.273, the liability of a public body and its officers, employees and agents acting within the scope of their employment or duties, for covered claims for damage and destruction of property that arise from causes of action arising on or after July 1, 2014, and before July 1, 2015, are as follows: (a) \$109,400 for any single claimant and (b) \$546,800 to all claimants. For causes of action arising on or after July 1, 2015, and before July 1, 2016, limitations increase to \$112,000 for single claimant and \$560,000 for multiple claimants.

## **PENSION PLANS: OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**

### **Overview**

The Oregon Public Employees Retirement System (“PERS” or “the Statewide PERS System”) provides statewide defined benefit retirement plans for units of state government, political subdivisions, community colleges, and school districts. Most public employers in Oregon, including the City, participate in PERS. PERS is administered under Oregon Revised Statutes (ORS) Chapter 238, Chapter 238A, and Internal Revenue Code Section 401(a) by the Public Employees Retirement Board (the “PERS Board”). The PERS Board is responsible for setting policies and for providing administrative direction to PERS. Benefits provided through PERS are paid from the Oregon Public Employees’ Retirement Fund (“OPERF”). PERS is a cost-sharing, multiple-employer public employee retirement system.

City employees (other than certain fire and police personnel), after six months of employment, participate in one of three retirement pension benefit programs provided through PERS as described below. The three PERS pension programs include two closed defined benefit programs and one program that has features of both defined benefit and defined contribution plans. In a defined benefit plan, the investment risk for the plan assets is borne by the employer. In a defined contribution plan, the investment risk for the plan assets is borne by the employee. A combination of participating employer contributions (determined by the PERS Board based upon the results of actuarial valuations), investment earnings and employee-paid contributions (currently, for the City, six percent of salaries and nine percent for police and fire employees) fund these pension programs. See “—Employer Contribution Rates and Amounts” and “—PENSION PLANS: FIRE AND POLICE DISABILITY AND RETIREMENT FUND” below.

### **Benefit Programs**

Employees hired before January 1, 1996, are known as “Tier 1” participants. The retirement benefits applicable to Tier 1 participants are based on a defined benefit model. Effective January 1, 2016, Tier 1 has an assumed earnings rate guarantee of 7.50 percent and a normal retirement age of 58. PERS maintains a “Tier One Rate Guarantee Reserve” which is credited with investment earnings in excess of the assumed earnings rate guarantee and used to offset the effects of investment earnings below the assumed earnings rate guarantee. As of June 30, 2015, the balance of this reserve was \$434 million. As of June 30, 2015, there were 32,542 active plan members, 119,865 inactive plan members currently receiving benefits, 15,847 inactive plan members entitled to but not yet receiving benefits, and 10 inactive members not eligible for refund or retirement, for a total of 168,264 Tier 1 members in the Statewide PERS System.

Employees hired on or after January 1, 1996, and before August 29, 2003, are known as “Tier 2” participants. The Tier 2 program also provides a defined benefit but with lower expected costs to employers than under the Tier 1 benefit. There is no assumed earnings rate guarantee and Tier 2 has a higher normal retirement age of 60. As of June 30, 2015, there were 41,275 active members 10,890 inactive plan members currently receiving benefits, 15,400 inactive plan members entitled to but not yet receiving benefits, and 753 inactive members not eligible for refund or retirement, for a total of 68,318 Tier 2 members in the Statewide PERS System.

Employees hired on or after August 29, 2003, are participants in a successor retirement program to the Tier 1 and Tier 2 retirement programs (the “T1/T2 Pension Programs”) known as the Oregon Public Service Retirement Plan (“OPSRP”). OPSRP consists of a defined benefit plan and also offers the Individual Account Program (“IAP”), which offers a defined contribution benefit. As of June 30, 2015, there were 94,773 active members, 1,751 inactive plan members currently receiving benefits, 4,227 inactive plan members entitled to but not yet receiving benefits, and 8,549 inactive members not eligible for refund or retirement, for a total of 109,300 OPSRP Pension Program members.

Effective January 1, 2004, all active Tier 1 and Tier 2 employees also became members of the IAP. Tier 1 and Tier 2 employees retain their existing T1/T2 Pension Program account, but member contributions are now deposited into the member’s IAP account, not into the member’s PERS account.

### **Apportionment of City Assets and Liabilities**

The City is pooled with the State of Oregon and other Oregon local government and community college public employers for its T1/T2 Pension Programs (the “State and Local Government Rate Pool” or “SLGRP”), and the SLGRP’s assets and liabilities are pooled. These assets and liabilities are not tracked or calculated on an employer basis or allocated to individual employers. The City’s portion of the SLGRP’s assets and liabilities is based on the City’s proportionate share of SLGRP’s pooled covered payroll. OPSRP’s assets and liabilities are pooled on a program-wide basis. These assets and liabilities are not tracked or calculated on an employer basis or allocated to individual employers. The City’s share of OPSRP’s assets and liabilities is based

on the City's proportionate share of OPSRP's pooled covered payroll. The City's proportionate liability of the T1/T2 Pension Programs and OPSRP may increase if other pool participants fail to pay their full employer contributions.

### **Employer Asset Valuation and Liabilities**

Oregon statutes require an actuarial valuation of the Statewide PERS System by a competent actuary at least once every two years. The current PERS actuary, Milliman, Inc., replaced the prior actuary, Mercer (US), Inc. ("Mercer"), in January 2012. Under current practice, actuarial valuations are performed annually, but only valuations as of the end of each odd-numbered year are used to determine annual required employer contribution rates that employers will be required to pay to fund the obligations of T1/T2 Pension Programs, OPSRP and the PERS-sponsored Retirement Health Insurance Account Plan ("RHIA"). For a description of RHIA, see "POST-EMPLOYMENT RETIREMENT BENEFITS" below. Valuations are released approximately one year after the valuation date.

An employer's unfunded actuarial liability ("UAL") is the excess of the actuarially determined present value of the employer's benefit obligations to employees over the existing actuarially determined assets available to pay those benefits. At its July 31, 2015, meeting, the PERS Board modified certain methods and assumptions which were to be used for the 2014 valuations and the 2015 valuations (the "2015 Board Changes"). The following table shows methods and assumptions adopted by the PERS Board, which are the basis for the actuarial valuations.

**Table D-1**  
**OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**  
**Actuarial Assumptions and Methods**

ASSUMPTION/METHOD	2012-2013 VALUATIONS	2014-2015 VALUATIONS (3) (2015 Board Changes)
Actuarial Cost Method:	Entry Age Normal	Entry Age Normal
UAL -Method: T1/T2 Programs	Level Percentage of Payroll over 20 years (fixed) (1)	Level Percentage of Payroll over 20 years (fixed) (1)
OPSRP	Level Percentage of Payroll over 16 years (fixed)	Level Percentage of Payroll over 16 years (fixed)
Asset Valuation Method:	Market Value (2)	Market Value (2)
Investment Rate of Return:	7.75%	7.50%
Payroll Growth Rate:	3.75%	3.50%
Inflation Level:	2.75%	2.75%
Contribution Rate Stabilization Method:	Contribution rate may increase or decrease by 3% of payroll or by 20% of the previous rate; whichever is greater, when an employer's funded status is between 70% and 130%. At a funded status of 60% or less, or 140% or more, the limitation doubles to 6% of payroll or 40% of the previous rate, whichever is greater. At a funded status between 60% and 70% or 130% and 140%, the limitation increases in increments between 3%-6% of payroll or 20%-40% of the previous rate, whichever is greater.	Contribution rate may increase or decrease by 3% of payroll or by 20% of the previous rate; whichever is greater, when an employer's funded status is between 70% and 130%. At a funded status of 60% or less, or 140% or more, the limitation doubles to 6% of payroll or 40% of the previous rate, whichever is greater. At a funded status between 60% and 70% or 130% and 140%, the limitation increases in increments between 3%-6% of payroll or 20%-40% of the previous rate, whichever is greater.

Notes:

- (1) Although the UAL amortization method remains unchanged, the PERS Board directed Milliman to re-amortize the UAL for the T1/T2 Pension Programs from the 2007, 2009, and 2011 valuations to restart the 20-year amortization period for those UALs effective with the 2013 valuation report.
- (2) Market value of assets reduced by value of assets in statutory reserves (contingency, capital preservation and rate guarantee reserves).
- (3) At its July 31, 2015, meeting, the PERS Board also made changes to actuarial assumptions including life expectancy and retirement age.

Source: Oregon Public Employees Retirement System.

Milliman, Inc. (“Milliman”), the PERS actuary, released its 2014 valuation for the Statewide PERS System as of December 31, 2014, (the “2014 System Valuation”) on November 12, 2015, and its 2015 valuation for the Statewide PERS System as of December 31, 2015, (the “2015 System Valuation”) on September 27, 2016. These reports include system-wide actuarial valuations for the T1/T2 Pension Programs and OPSRP.

Milliman released the City’s individual 2014 valuation report as of December 31, 2014, (the “2014 City Report”) on November 17, 2015, and its individual 2015 valuation report as of December 31, 2015, (the “2015 City Report”) on October 11, 2016. These valuation reports provide the City’s portion of (a) the SLGRP based on the City’s proportionate share of the total SLGRP covered payroll as of the valuation date, (b) OPSRP based on the City’s proportionate share of total OPSRP covered payroll as of the valuation date, and (c) the RHIA based on the City’s proportionate share of the total RHIA covered payroll as of the valuation date.

The tables below provide historical summary valuation information for the Statewide PERS System and for the City.

**Table D-2**  
**OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**  
**Summary of Statewide PERS System Funding Levels**  
**(\$ in Millions) (1)**

<b>STATEWIDE PERS SYSTEM</b>				
<b>Calendar Year</b>	<b>Actuarial</b>	<b>Unfunded</b>		
	<b>Value of Assets</b>	<b>Actuarial Liability</b>	<b>Actuarial Liability</b>	<b>Funded Ratio (%)</b>
2006	56,616.5	51,252.9	(5,363.6)	110.5
2007	59,327.8	52,871.2	(6,456.6)	112.2
2008	43,520.6	54,259.5	10,738.9	80.2
2009	48,729.2	56,810.6	8,081.4	85.8
2010	51,583.6	59,329.5	7,745.9	86.9
2011	50,168.2	61,198.4	11,030.2	82.0
2012 (2)	54,784.1	60,405.2	5,621.1	90.7
2013 (2)	60,014.1	62,593.6	2,579.5	95.9
2014 (3)	61,395.1	73,458.9	12,063.8	83.6
2015 (4)	54,365.8	76,196.6	21,830.8	78.7

Notes:

- (1) Composed of Tier 1/Tier 2 and OPSRP pensions but excluding retiree healthcare subsidies of RHIA. Includes side accounts resulting from employer supplemental deposits, including proceeds of pension obligation bonds.
- (2) Reflects savings that were anticipated from the 2013 PERS Bills, but will not be realized because most of the 2013 PERS Bills were invalidated. See “—Recent Developments Related to PERS” below. Also reflects actuarial assumptions and methods described in Table D-1 above.
- (3) Reflects the Oregon Supreme Court decision invalidating most of the 2013 PERS Bills. See “—Recent Developments Related to PERS” below. Reflects the 2015 Board Changes. See Table D-1 above.
- (4) Reflects the Oregon Supreme Court decision invalidating most of the 2013 PERS Bills. See “—Recent Developments Related to PERS” below. Reflects the 2015 Board Changes. See Table D-1 above. Also reflects actual investment returns during fiscal years 2015 and 2016. See Table D-5 below.

Source: Oregon Public Employees Retirement System.



**Table D-3**  
**OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**  
**Summary of City Funding Levels**  
**(\$ in Millions) (1)**

<b>Calendar Year</b>	<b>Actuarial</b>	<b>Unfunded</b>		
	<b>Value of Assets</b>	<b>Actuarial Liability</b>	<b>Actuarial Liability</b>	<b>Funded Ratio (%)</b>
2006	\$1,619.3	\$1,432.0	\$(187.3)	113.1
2007	1,635.0	1,410.8	(224.2)	115.9
2008	1,280.6	1,539.9	259.2	83.2
2009	1,424.0	1,606.0	182.0	88.7
2010	1,499.8	1,672.5	172.7	89.7
2011	1,459.0	1,724.2	265.3	84.6
2012 (2)	1,624.8	1,744.3	119.5	93.2
2013 (2)	1,762.8	1,804.7	41.9	97.7
2014 (3)	1,844.1	2,210.1	366.0	83.4
2015 (3)	1,820.6	2,335.5	514.9	78.0

Notes:

- (1) Composed of Tier 1/Tier 2 and OPSRP pensions but excluding retiree healthcare subsidies of RHIA. City information is calculated separately for the SLGRP and OPSRP using the City's payroll as a percentage of combined payroll of the respective rate pools. Includes impact of pension obligation bonds.
- (2) Reflects savings that were anticipated from the 2013 PERS Bills, but will not be realized because most of the 2013 PERS Bills were invalidated. See "—Recent Developments Related to PERS" below. Also reflects actuarial assumptions and methods described in Table D-1 above.
- (3) Reflects the Oregon Supreme Court decision invalidating most of the 2013 PERS Bills. See "—Recent Developments Related to PERS" below. Reflects the 2015 Board Changes. See Table D-1 above.
- (4) Reflects the Oregon Supreme Court decision invalidating most of the 2013 PERS Bills. See "—Recent Developments Related to PERS" below. Reflects the 2015 Board Changes. See Table D-1 above. Also reflects actual investment returns during fiscal years 2015 and 2016. See Table D-5 below.

Source: Oregon Public Employees Retirement System.

The following table presents a history of the City’s member payroll, unfunded actuarial liability and ratio of unfunded actuarial liability to payroll.

**Table D-4**  
**OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**  
**City Payroll for PERS Members and Unfunded Actuarial Liability**

<b>Calendar Year</b>	<b>Payroll</b>	<b>Unfunded Actuarial Liability</b>	<b>Unfunded Liability to Payroll Ratio</b>
2006	\$242,259,162	\$(187,332,041)	-77%
2007	259,889,403	(224,199,619)	-86%
2008	289,371,762	259,241,423	90%
2009	303,851,551	182,019,126	60%
2010	307,538,429	172,726,579	56%
2011	303,508,135	265,267,189	87%
2012	311,688,601	119,477,128	38%
2013	313,291,592	41,882,231	13%
2014	335,113,826	365,964,877	109%
2015	350,158,915	514,861,639	147%

Source: Oregon Public Employees Retirement System.

The funded status of the pension programs may change depending on the market performance of the securities that the OPERF is invested in, future changes in compensation and benefits of covered employees, demographic characteristics of members and methodologies and assumptions used by the actuary in estimating the assets and liabilities of PERS. Additionally, the market value of the investments held in the OPERF is determined using various sources.

### **State Investment Policy**

The Oregon State Treasury is the investment officer for the state of Oregon. Investment standards are established in ORS 293.726 and require funds to be managed as a prudent investor would do. The Oregon Investment Council (“OIC”) establishes policies for the investment and reinvestment of moneys in PERS investment funds. Policies are established based on the primary investment asset class of each investment manager. The OIC has approved the following asset classes for the OPERF: Short-Term Investing, Fixed Income, Real Estate, Public and Private Equities, and Alternative Investments. In addition, OPERF invests in the Opportunity Portfolio, which may be populated with investment approaches across a wide range of investment opportunities with no limitation as to asset classes or strategies. The target investment portfolio mix at fair market value was revised at the OIC meeting of June 3, 2015, and currently is 37.5 percent public equity, 17.5 percent private equity, 20 percent debt securities, 12.5 percent real estate, and 12.5 percent alternative equity.

The following table presents a 10-year history of investment returns for the OPERF.

**Table D-5**  
**OREGON PUBLIC EMPLOYEES RETIREMENT FUND**  
**Oregon PERS Investment Returns (1)**

<b>Fiscal Year</b>	<b>Net</b>
<b>Ending June 30</b>	<b>Returns (%)</b>
2007	18.6
2008	-3.5
2009	-22.2
2010	17.0
2011	22.3
2012	1.6
2013	12.7
2014	16.6
2015	4.3
2016	1.2

Notes:

(1) Total fund performance, excluding variable account.

Source: "Oregon PERS Monthly Returns" as of June 30 of the respective fiscal year shown in the table, website of the Oregon State Treasurer, Investment Division, Oregon Public Employees Retirement Fund (OPERF) as of October 14, 2016.

The following table presents annualized investment returns over the most recent 1-year, 3-year and 5-year periods. Calculations were prepared using a time-weighted rate of return based on market rates in accordance with the Global Investment Performance Standards performance presentation standards.

**Table D-6**  
**OREGON PUBLIC EMPLOYEES RETIREMENT FUND**  
**Annualized Investment Results (1)**

	<b>Annualized</b>		
<b>Periods Ending June 30, 2016</b>	<b>1-Year</b>	<b>3-Year</b>	<b>5-Year</b>
Total Portfolio, Excluding Variable	1.2%	7.2%	7.1%

Notes:

(1) Total fund performance, excluding variable account.

Source: "Oregon PERS Monthly Returns" as of June 30 of the respective fiscal year shown in the table, website of the Oregon State Treasurer, Investment Division, Oregon Public Employees Retirement Fund (OPERF) as of October 14, 2016.

Investment returns for calendar year 2015 were substantially below the 7.50 percent assumed earnings rate, which is a large factor in the increase in the UAL of the PERS System and the City as of December 31, 2015. See Table D-2 and Table D-3 above.

## **Employer Contribution Rates and Amounts**

The PERS Board is required by State statute to determine liabilities of the Statewide PERS System from time to time and to set contributions of participating employers at a level that ensures liabilities of the Statewide PERS System will be funded no more than 40 years after the date on which the determination is made. ORS 238.225 requires participating public employers to pay the amounts the PERS Board determines to be actuarially necessary to fund benefits provided to employees.

PERS funding policy provides for monthly employer contributions at actuarially determined rates. These contributions, expressed as a percentage of covered payroll, are intended to accumulate sufficient assets to pay benefits when due. Employer contribution rates are based upon the current and projected cost of benefits and the anticipated level of funding available from the OPERF, including known and anticipated investment performance of the OPERF.

At the end of each odd-numbered year, actuarial valuations determine the employer contribution rates that are officially set by the PERS Board. All employers participating in PERS are required to make their contribution to PERS based on the employer contribution rates set by the PERS Board. The City's employer contribution rates were derived using a rate stabilization methodology (the "Rate Collar") designed to cap rate increases and reduce large fluctuations in employer contribution rates. Such rate increases are shifted to future biennia. See Table D-1 for a summary of the Rate Collar in effect. Because of the Rate Collar, the PERS Board-approved employer contribution rates for some employers, including the City, are currently less than the actuarially required contribution ("ARC").

T1/T2 Pension Programs employees and OPSRP employees are required by state statute to contribute six percent of their annual salary to the respective programs. Employers are allowed to pay the employees' contribution in addition to the required employers' contribution. The City has elected to make the employee contribution. An employer also may elect via written employment policy or agreement to make additional employer contributions to its employees' IAP accounts in an amount that can range from not less than one percent of salary to no more than six percent of salary and must be a whole percentage. Employers may make this policy or agreement for specific groups of their employees. The City has elected to make an optional contribution to the IAP accounts of public safety employees hired after January 1, 2007, of an additional three percent of their annual salary.

The table below shows the City's current employer contribution rates for the 2015-17 biennium that ends on June 30, 2017. The table also shows the City's employer rates for the 2017-19 biennium that begins on July 1, 2017, as reported in the 2015 City Report; however, these rates have not been adopted by the PERS Board. The rates reported in the table do not include the six percent and nine percent employee contribution rates for contributions to the IAP paid by the City. The 2015 System Valuation Presentation includes Milliman's estimate of the weighted average employer contribution rate increase of 10.30 percent of covered payroll for the 2017-19 biennium; however, the Rate Collar would limit the increase to the weighted average employer contribution rate of 3.09 percent of covered payroll. See Table D-1 for a description of the Rate Collar.

**Table D-7**  
**OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM**  
**Employer Contribution Rates for the City**  
**Percentage of Covered Payroll (1)**

<b>Payrolls Paid</b>	<b>Current Rates</b>	<b>Future Rates</b>
	<b>2015-17 (2)</b>	<b>2017-19 (3)</b>
T1/T2	12.85%	17.12%
OPSRP General Services	7.00%	10.26%
OPSRP Police and Fire	11.11%	15.03%

Notes:

- (1) Does not include contribution rates to fund RHIA. See “OTHER POST-EMPLOYEE RETIREMENT BENEFITS – PERS Program.” For FY 2014-15, one percent of the City’s covered payroll for the three pension benefit programs was approximately: \$1,614,480 for T1/T2 Pension Programs; \$1,335,913 for OPSRP general services; and \$352,885 for OPSRP police and fire.
- (2) Includes adjustments for side accounts and pre-SLGRP liabilities.
- (3) The City’s employer contribution rates for 2017-2019 reported in the 2015 City Report, but are not yet adopted by the PERS Board.

Source: City of Portland, Oregon Public Employees Retirement System, and 2014 City Report and 2015 City Report prepared by Milliman.

The City’s contribution rates may increase or decrease due to a variety of factors, including the investment performance of the OPERF, the use of pension-related reserves, further changes to system valuation methodology and assumptions and decisions by the PERS Board, and changes in benefits resulting from legislative modifications.

The City’s financial plan has been updated to incorporate higher growth assumptions for PERS employer rates. The financial plan assumes an increase in PERS rates of approximately four percentage points and OPSRP rates of approximately three percentage points above current rates for FY 2017-18 and FY 2018-19. For FY 2019-20 and FY 2020-21, the financial plan assumes an increase in PERS rates of another four percentage points and in OPSRP rates of another three percentage points.

### **City Funding Policy**

In August 2014, the City Council approved a policy regarding funding of its PERS pension liability. The policy requires the City to make contributions at no less than the rate established by the PERS Board and required by ORS 238.225. The City has always funded its full employer contribution as required by ORS 238.225. See “—Employer Contribution Rates and Amounts” above.

### **Pension Obligation Bonds**

In addition to their PERS contribution, City bureaus in existence as of November 10, 1999, (the issue date of the bonds) are required to make a contribution to pay debt service on outstanding Limited Tax Pension Obligation Revenue Bonds (the “Pension Obligation Bonds”), which were issued to fund the City’s share of the unfunded actuarial liabilities of PERS as of December 31, 1997. The Pension Obligation Bonds were issued in three series: one series of fixed rate bonds in an amount of \$150,848,346 and two series of auction rate securities in an aggregate amount of \$150,000,000. The final maturity of the fixed rate Pension Obligation Bonds is June 1, 2029. Pension Obligation Bonds issued as auction rate securities mature on June 1, 2019. Proceeds of the Pension Obligation Bonds were deposited in an account with PERS. Table D-8 below shows the debt service paid by the City on its Pension Obligation Bonds.

### **Total City Pension Contribution**

The following table shows the amount of City contributions paid to PERS for the three pension programs including amounts paid by the City for the employee contribution. Contributions include the payments from the Fire and Police Disability and Retirement Fund for pensions of police and firefighters participating in the T1/T2 Pension Programs and OPSRP. Fire and Police Disability and Retirement Fund contributions are funded from a dedicated Citywide property tax levy. See “—Fire and Police Disability and Retirement Fund” below. In FY 2015-16, 60.7 percent of the total cash contribution was for the employer share and 39.3 percent was for the employee share. The City made its required contribution for its pension obligation in all years. See “—Employer Contribution Rates and Amounts” above.

**Table D-8  
CITY OF PORTLAND, OREGON  
City Contribution to PERS**

<b>Fiscal Year Ending June 30</b>	<b>City's Required Cash Contribution to PERS (1)</b>	<b>Debt Service on Pension Obligation Bonds</b>	<b>Total Cash Contribution for Pension Costs</b>
2007	\$31,172,696	\$18,990,492	\$50,163,188
2008	32,779,658	19,839,413	52,619,071
2009	35,326,820	16,059,937	51,386,757
2010	32,598,608	15,223,638	47,822,246
2011	33,622,080	16,413,710	50,035,790
2012	45,229,731	17,738,966	62,968,697
2013	45,278,556	19,432,611	64,711,167
2014	45,868,558	21,128,704	66,997,262
2015	46,969,145	23,204,402	70,173,547
2016	55,530,023	25,350,326	80,880,349

Notes:

- (1) Includes City's statutorily required employer contribution for T1/T2 and OPSRP pension program and its pension contribution on behalf of employees. Includes contributions from FPDR property tax levy and other non-General Fund bureaus such as the Water Bureau and the Bureau of Environmental Services.

Source: City of Portland.

### **Recent Developments Related to PERS**

During the 2013 Legislative Session and the 2013 Special Session the Legislative Assembly enacted Senate Bills 822, 861, and 862 (the "2013 PERS Bills") that were expected to: limit annual benefits cost of living adjustments ("COLAs"), for PERS retirees, eliminate a benefit increase for out-of-state retirees based on Oregon income tax, exclude salary increases given to pay for insurance costs from the final average salary used to calculate pension benefits, and reduce legislators' participation in PERS. The 2013 PERS Bills were expected to reduce the amount of future benefit payments from the Statewide PERS System and reduce the unfunded actuarial liability of the Statewide PERS System by approximately \$5 billion.

In addition to legislative actions, in 2013 the PERS Board made other adjustments that were estimated by PERS to increase the unfunded actuarial liability of the Statewide PERS System by approximately \$2.5 billion. See Table D-1 for a summary of the changes made by the PERS Board.

Several lawsuits were filed challenging the 2013 PERS Bills. On April 30, 2015, the Oregon Supreme Court released its decision in these cases. According to its decision, the Supreme Court invalidated the limits on COLAs (the "COLA Limits") insofar as they apply to benefits that members earned before the effective dates of the 2013 PERS Bills and upheld the elimination of the benefit increase for out-of-state retirees.

### **Implementation of Governmental Accounting Standards Board Statement No. 68**

As reflected in its Comprehensive Annual Financial Report ("CAFR") for the fiscal year ended June 30, 2015, the City implemented Governmental Accounting Standards Board Statement No. 68 ("GASB 68"), which significantly changed employer reporting of defined benefit pension plans for state and local governments. Under these new standards, for the fiscal year ending June 30, 2016, the City reported a net pension liability of \$217.1 and a pension expense of \$165.1 million. See the City's CAFR for the fiscal year ended June 30, 2016, posted on the EMMA website. The amount does not reflect changes made by the board after June 30, 2015, including the reduction in the investment rate of return from 7.75 percent to 7.50 percent.

## **PENSION PLANS: FIRE AND POLICE DISABILITY AND RETIREMENT FUND**

### **Overview**

The following discussion pertains to the City's Fire and Police Disability, Retirement and Death Benefit Plan (the "FPDR Plan"). The FPDR Plan was established in 1942 to provide disability, retirement and death benefits for sworn members of the City's Bureaus of Fire and Police and their survivors. The FPDR Plan is governed by a Board of Trustees (the "FPDR Board"), composed of the Mayor or Mayor's designee, two active members of the Fire and Police Bureaus and two citizens appointed by the Mayor and confirmed by the City Council. The Fire and Police member trustees are elected by the active members of the Fire Bureau and Police Bureau, respectively. The citizen trustees must have relevant experience in pension or disability matters. The Plan is administered by the Bureau of Fire and Police Disability and Retirement, led by the Fund Administrator.

The FPDR Plan's authority for vesting and benefit provisions is provided by Chapter 5 of the City Charter. Amendments require majority approval of the voters in the City. Ten revisions have been passed by the voters since the creation of the plan. The most recent revision, comprised of eleven different plan amendments, was passed November 6, 2012.

City Council may provide by ordinance any additional benefits that the City is required by law to extend to the members and may also change benefits by ordinance to maintain the FPDR Plan's tax-qualified status. City Council amended the FPDR Plan three times in 2016 to provide additional benefits in compliance with arbitrators' orders. The first amendment added a reversionary benefit when an alternate payee (a former spouse who has been granted a portion of a member's pension) predeceases the member. The second and third amendments changed the definition of final pay used to calculate FPDR Two pension benefits. Prior to January 1, 2013, final pay was defined as pay received during a 12-month period. The City's biweekly pay structure occasionally results in 27 pay checks, rather than the usual 26, in a 12-month period. In 2012 City of Portland voters changed the definition of final pay to include 365–366 days of pay, which is equivalent to approximately 26.1 pay checks. An arbitrator ordered the City to make whole members of the Portland Police Association (PPA) whose pensions (current or future) were reduced by the change. Council amended the City Charter to define final pay for FPDR Two PPA members as the greater of the two methods, 26.1 or 27 pay checks. Following a second arbitrator's order, Council amended the City Charter in an identical manner for FPDR Two members of the Portland Fire Fighters Association and the Portland Police Commanding Officers Association.

### **Benefit Programs**

The FPDR Plan consists of three tiers, two of which are now closed to new employees. The retirement plans for FPDR One, the original plan, and FPDR Two, in which most active fire and police personnel participate, are single-employer, defined-benefit plans administered by the FPDR Board. In addition to retirement benefits for FPDR One and FPDR Two members, the FPDR Plan provides for service-connected, nonservice-connected, and occupational disability benefits for FPDR One, FPDR Two and FPDR Three members. FPDR Plan members do not participate in Social Security and do not receive Social Security benefits for their years of service.

**FPDR One.** Sworn members of the Police and Fire Bureaus subject to the FPDR Plan as constituted prior to July 1, 1990, are included in the FPDR One tier. All FPDR One members are now retired or receiving long-term disability benefits. Under FPDR One, retirement benefits are provided upon termination of employment on or after attaining age 50 (with 25 or more years of service) or 55 (with 20 years or more of service). Retirement benefits are paid to members at two percent of current top-step pay for a police officer or firefighter for each year of active service (up to 60 percent); therefore, FPDR One members receive postretirement benefit increases equal to increases in current top-step police officer or firefighter pay. As of June 30, 2016, there were 500 members and beneficiaries in FPDR One.

**FPDR Two.** Sworn members of the Police and Fire Bureaus subject to the FPDR Plan as constituted after June 30, 1990, and first sworn before January 1, 2007, are included in the FPDR Two tier. Under FPDR Two, retirement benefits are provided upon termination of employment on or after attaining age 55, or on or after attaining age 50 if the member has 25 or more years of service. Members become 100 percent vested after five years of service. Benefits are paid using a formula tied to years of service and the highest one-year base pay the member received during the final three years of employment. The FPDR Board has the authority to grant postretirement benefit increases to FPDR Two members, so long as the increases do not exceed increases awarded to sworn retirees of PERS. Members enrolled in the FPDR Plan and still working prior to July 1, 1990, were required to make an election as to whether they wished to fall under the provisions of the FPDR Plan as constituted prior to July 1, 1990 (now called FPDR One) or become subject to the new FPDR Two provisions after June 30, 1990. As of June 30, 2016, there were 2,497 members and beneficiaries in FPDR Two.

**FPDR Three.** Sworn members of the Police and Fire Bureaus hired on or after January 1, 2007, are included in the FPDR Three tier; those sworn on or after January 1, 2013, become FPDR Three members after six months of service. These participants are part of OPSRP for retirement benefits and are under the FPDR Plan for disability and pre-retirement death benefits, offset by any benefits received on account of disability or death under OPSRP. Retirement benefits for these participants are pre-funded, and the FPDR levy pays the employee and employer portions of the OPSRP contribution. For information regarding OPSRP and the employee and employer contribution rates for OPSRP, see “PENSION PLANS: OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM,” above. As of June 30, 2016, there were 464 FPDR Three members.

## Funding

The FPDR Plan is funded by a special property tax levy which cannot exceed two and eight-tenth mills on each dollar of valuation of property (\$2.80 per \$1,000 of Real Market Value) that is not exempt from such levy. The FPDR property tax levy has been sufficient in all years to meet required annual benefit payments. In the event that collections from this special property tax levy for the FPDR Plan are less than the amount required for payment of benefits in any particular year, the FPDR Fund could receive advances from the FPDR Reserve Fund first and then from other City funds to make up the difference. While the FPDR Fund has not experienced any funding shortfalls to date, future funding is dependent on the availability of property tax revenues and, in the absence of sufficient property tax revenues, City funds.

Although the City Charter provides the FPDR Plan with dedicated property tax levy authority, the Oregon state constitution caps each property’s general government taxes at \$10 per \$1,000 of Real Market Value. After reaching this point, all levies, including the FPDR levy, are subject to Measure 5 compression to fit within the \$10 limit. For this reason, it is unlikely that FPDR could collect the full \$2.80 per \$1,000 of Real Market Value on each property. In FY 2016-17, the tax loss due to Measure 5 compression was \$6.5 million, or 4.6 percent of the FPDR tax levy.

## Retirement Plan Asset Valuation and Liabilities

The table below shows key assumptions for the most recent valuation of the FPDR Plan. Key actuarial assumptions have changed over time, including a change from Attained Age Normal to Entry Age Normal for retirement benefits with the June 30, 2012, valuation. Mortality and other assumptions are regularly reviewed and updated as needed. The discount rate has changed over time to reflect economic conditions. Beginning with the June 30, 2014, valuation, the discount rate is equal to the June 30 value of the Bond Buyer General Obligation 20-Bond Municipal Bond Index each year, in accordance with the requirement of Governmental Accounting Standards Board Statement No. 67 (“GASB 67”) that plans use a risk-free discount rate for the portion of the plan’s liability that is not prefunded.

**Table D-9**  
**CITY OF PORTLAND, OREGON**  
**FPDR Plan -- Actuarial Assumptions and Methods**  
**For the June 30, 2016, Roll-Forward of the June 30, 2014, Valuation**

Actuarial Cost Method	Entry Age Normal
Actuarial Value of Assets	Market Value
Funding Policy	Pay-As-You-Go
Discount Rate	2.85%
Payroll Growth Rate	3.75%

Source: City of Portland Fire and Police Disability and Retirement Fund audited financial statements, June 30, 2016.

As distinguished from the pension plan for FPDR Three members, assets generally are not accumulated in the current year to pay for benefit payments in future years for the FPDR Plan. The table below shows funding levels for the FPDR Plan over the past ten fiscal years. In accordance with the Charter’s provisions, there are no requirements to fund the FPDR Plan using actuarial techniques. The FPDR Plan is funded on a pay-as-you-go basis. Each year’s benefits and expenses are paid for with employer contributions derived from dedicated property tax revenue received during that year. Because of the FPDR Plan’s pay-as-you-go funding basis, the unfunded actuarial accrued pension liability and net pension liability (the new terminology per GASB 67 implemented by the City effective June 30, 2014), do not reflect the value of dedicated future revenues from the property tax levy. See “—Levy Adequacy” below. As reflected in the City’s CAFR for its fiscal year ended June 30, 2016, and required by GASB 68, the net pension liability for the FPDR Plan is a primary factor in the City’s unrestricted net position deficit for governmental activities for the fiscal year ended June 30, 2016 and contributed to the City’s total net position decrease



from FY 2012-13 to FY 2013-14. See table entitled “Net Position by Component Last Ten Fiscal Years (accrual basis of accounting)” on page 306 of the City’s CAFR for its fiscal year ended June 30, 2016, which is available on EMMA.

**Table D-10**  
**CITY OF PORTLAND, OREGON**  
**FPDR Plan --Summary of Funding Levels (1)**

<b>Fiscal Year</b>	<b>Actuarial Value of Assets</b>	<b>Actuarial Liability</b>	<b>Unfunded Actuarial Liability (1)</b>	<b>Funded Ratio (2)</b>
2005	\$15,121,840	\$1,684,457,000	\$1,669,335,160	0.90%
2006	15,266,971	1,817,661,000	1,802,394,029	0.84%
2007 (3)	9,884,902	1,919,501,000	1,909,616,098	0.51%
2008	5,377,290	2,217,414,215	2,212,036,925	0.24%
2009 (3)	11,571,074	2,279,923,000	2,268,351,926	0.51%
2010	16,542,896	2,549,479,088	2,532,936,192	0.65%
2011 (3)	25,648,253	2,610,360,794	2,584,712,541	0.98%
2012 (3)	20,287,803	2,674,072,175	2,653,784,372	0.76%

<b>Fiscal Year</b>	<b>Plan Net Position, Ending</b>	<b>Total Pension Liability</b>	<b>Net Pension Liability (2)</b>	<b>Net Position as Percent of Total Liability</b>
2013 (3)	\$17,155,015	\$2,517,096,534	\$2,499,941,519	0.68%
2014 (3)	20,532,924	2,473,970,866	2,453,437,942	0.83%
2015 (3)	21,876,942	2,896,894,767	2,875,017,825	0.76%
2016 (3)	17,425,353	3,391,461,315	3,374,035,962	0.51%

Notes:

- (1) Table reflects transition to new accounting classifications as required by the Governmental Accounting Standards Board.
- (2) Does not include value of future dedicated FPDR property tax collections.
- (3) Amounts are calculated by rolling forward prior actual valuations. See Table D-11 below for summary of June 30, 2012, and June 30, 2014, valuations.

Source: City of Portland audited financial statements.

Overall the unfunded actuarial liability decreased from \$2.88 billion on June 30, 2012, to \$2.47 billion on June 30, 2014, as shown in Table D-11 below. Note that these valuations differ from results shown in Table D-10 above because they are based on actual results prepared by Milliman and are not roll-forward amounts of prior valuations.

**Table D-11**  
**CITY OF PORTLAND, OREGON**  
**FPDR Plan--Summary of Most Recent Actuarial Valuations**

<b>Fiscal Year</b>	<b>Plan Assets</b>	<b>Actuarial Accrued Liability</b>	<b>Unfunded Actuarial Accrued Liability</b>
2012	\$20,287,803	\$2,899,238,902	\$2,878,951,099
2014	20,532,924	2,488,261,858	2,467,728,934

Source: Milliman Inc., City of Portland Fire & Police Disability & Retirement (FPDR) Fund, Pension Actuarial Valuation Report as of June 30, 2014, dated January 15, 2015.

To comply with GASB 67, the 2014 valuation used a discount rate of 4.29 percent (the June 30, 2014, value of the Bond Buyer General Obligation 20-Bond Municipal Bond Index). The increase in the discount rate from 3.50 percent to 4.29 percent accounted for \$274 million of the decreased liability. As described above, the FPDR Plan provides that FPDR Two postretirement benefit increases cannot exceed the postretirement benefit increases for PERS sworn retirees. For the 2014 valuation, these adjustments were based on the PERS COLA as modified by the 2013 PERS Bills, which reduced the liability by \$293 million. The reductions in the liability from the higher discount rate and the 2013 PERS Bills were offset by various increases totaling \$157 million, for an overall reduction of \$411 million in the actuarial accrued liability between June 30, 2012, and June 30, 2014. However, see “—Recent Developments Related to PERS.” For the June 30, 2016, roll-forward of the June 30, 2014, valuation, the net pension liability increased by \$499 million as compared with the June 30, 2015, roll forward. Of this amount, \$431 million is attributable to a drop in the discount rate from 3.80 percent to 2.85 percent.

#### **Levy Adequacy**

Since the FPDR Plan is a pay-as-you-go plan funded with a dedicated property tax, the critical measure of its financial health is whether this property tax will ever be insufficient to fully cover plan expenditures. The table below compares the certified tax levy for FPDR Plan contributions (for FPDR One and FPDR Two participants) and OPSRP contributions (for FPDR Three participants) with the amount authorized based on the \$2.80/\$1,000 Charter limitation. Between FY 2007-08 and FY 2016-17, Real Market Value of property subject to taxation has grown by a compounded annual rate of approximately 3.9 percent.

**Table D-12**  
**CITY OF PORTLAND, OREGON**  
**FPDR Fund--Certified Levies Compared with Maximum Levies Authorized**

<b>FYE</b>	<b>Tax Levy</b>	<b>Certified Tax Levy</b>	<b>Maximum Levy Authorized</b>	<b>Amount Available to be Certified from Authorized Levy</b>
<b>June 30</b>	<b>per \$1,000 RMV</b>	<b>(1)</b>	<b>(\$2.80/1,000 RMV)</b>	
2008	\$1.13	\$95,365,463	\$236,014,742	\$140,649,279
2009	1.23	111,152,436	253,003,644	141,851,208
2010	1.29	114,980,456	249,261,909	134,281,453
2011	1.37	118,526,184	241,849,105	123,322,921
2012	1.41	114,264,711	227,257,618	112,992,907
2013	1.55	123,564,952	223,709,460	100,144,508
2014	1.62	136,383,540	235,325,707	98,942,167
2015	1.48	136,883,230	259,331,341	122,448,111
2016	1.30	133,795,013	287,358,793	153,563,780
2017	1.15	138,900,728	338,199,473	199,298,745

Notes:

(1) Before Measure 5 compression, delinquencies and discounts.

Source: City of Portland.

The table below shows historical taxes imposed (after Measure 5 compression) and historical expenditures for retirement benefits and death and disability benefits. As fire and police retirement benefits transition from a pay-as-you-go system to a pre-funded system through OPSRP, the FPDR levy will be funding two generations of FPDR members simultaneously: FPDR One and FPDR Two members who are funded on a pay-as-you-go basis during their retirement years and FPDR Three members whose retirement and death benefits are pre-funded through OPSRP during their working careers. Costs for disability benefits will continue to be paid on a pay-as-you go basis. As described below, higher costs are expected over approximately the next 20 years, with the potential for higher tax levy rates.

**Table D-13**  
**CITY OF PORTLAND, OREGON**  
**FPDR Fund--Imposed Levies and Expenditures for**  
**Pension Benefits and Death/Disability Benefits**

<b>FYE</b>	<b>Imposed Tax</b>	<b>FPDR One &amp;</b>	<b>FPDR Three</b>	<b>Disability &amp;</b>	<b>Total FPDR</b>
<b>June 30</b>	<b>Levy (1)</b>	<b>Two Pension</b>	<b>OPSRP</b>	<b>Funeral Benefits</b>	<b>Benefit</b>
		<b>Benefits</b>	<b>Contributions</b>		<b>Contributions</b>
2007	\$84,180,663	\$74,375,304	\$0	\$10,849,102	\$85,224,406
2008	92,819,416	80,718,048	726,748	10,876,351	92,321,147
2009	107,869,880	85,079,520	1,774,991	9,241,784	96,096,295
2010	111,376,678	89,038,110	2,210,250	9,075,988	100,324,348
2011	114,217,070	90,464,611	2,865,737	7,938,636	101,268,984
2012	108,666,428	94,708,986	4,735,637	7,064,187	106,508,810
2013	115,752,880	99,417,595	5,265,815	6,725,710	111,409,120
2014	123,304,615	103,506,696	5,998,321	7,410,977	116,915,994
2015	126,777,805	103,355,638	6,952,685	6,219,646	116,527,969
2016 <sup>(2)</sup>	126,376,817	107,074,899	8,699,501	6,420,506	122,194,906

Notes:

(1) Amount after Measure 5 compression but not adjusted for delinquencies and discounts.

Source: City of Portland.

The FPDR Board assesses the FPDR Plan's long-term financial condition in part by projecting the future availability of revenues from the dedicated property tax (the "Levy Adequacy Analysis"), which are the source of employer contributions under the Charter. The most recent Levy Adequacy Analysis, completed by an independent actuary in connection with the actuarial valuation of the fund, was as of June 30, 2014. The Levy Adequacy Analysis found that, under a wide range of simulated economic scenarios in the foreseeable future, the future FPDR Fund levy would remain under \$2.80 per \$1,000 of Real Market Value, but the levy exceeded the \$2.80 threshold in at least one year in approximately four percent of modeled scenarios. The first year in which the percent of scenarios exceeding the levy limit reaches the one percent level is FY 2029-30. Pay-as-you-go costs peak in FY 2035-36 in nominal terms; the peak on an inflation-adjusted basis is in FY 2028-29.

The 2016 Levy Adequacy Analysis is scheduled to be presented to the FPDR Board in January 2017. That analysis will reflect higher plan benefits, in the form of higher postretirement benefit increases for FPDR Two retirees following an Oregon Supreme Court decision invalidated portion of the 2013 PERS Bills, higher pension benefits for most FPDR Two retirees as a result of a changed definition of final pay (see "—Overview" above), and higher benefits resulting from a new PPA collective bargaining agreement that increases wages by 9.27 percent over the next three years. For these reasons, the probability of exceeding the levy limit will likely increase with the 2016 Levy Adequacy Analysis, although some of the increase may be offset by rising Real Market Values in the City's tax base.

The table below shows projected levy rates and taxes levied at the 50<sup>th</sup> and 5<sup>th</sup> percentiles for FY 2014-15 through FY 2033-34 as included in the 2014 Levy Adequacy Analysis. Note that actual levy rates in FY 2014-15 were \$1.48 per \$1,000 of Real Market Value, \$1.30 per \$1,000 of Real Market Value in FY 2015-16, and \$1.15 per \$1,000 of Real Market Value in FY 2016-17.

**Table D-14**  
**CITY OF PORTLAND, OREGON**  
**FPDR Fund--Projected Levy Rate, Taxes and Requirements**

<b>Fiscal Year Ended June 30</b>	<b>Levy Rate at 50th Percentile</b>	<b>Taxes Levied at 50th Percentile</b>	<b>Levy Rate at 5th Percentile</b>	<b>Taxes Levied at 5th Percentile</b>
2015	\$1.46	\$135,000,000	\$1.46	\$135,000,000
2016	1.40	138,600,000	1.40	138,600,000
2017	1.39	143,400,000	1.54	144,600,000
2018	1.38	149,200,000	1.63	152,500,000
2019	1.38	155,100,000	1.67	159,000,000
2020	1.38	161,700,000	1.76	171,500,000
2021	1.37	168,500,000	1.80	179,700,000
2022	1.37	176,300,000	1.89	193,700,000
2023	1.37	183,500,000	1.92	203,200,000
2024	1.36	191,400,000	1.99	217,100,000
2025	1.37	200,600,000	2.03	229,200,000
2026	1.37	210,500,000	2.11	245,400,000
2027	1.38	220,700,000	2.16	259,600,000
2028	1.38	230,400,000	2.23	276,700,000
2029	1.38	240,500,000	2.28	291,700,000
2030	1.43	264,000,000	2.46	323,400,000
2031	1.43	275,000,000	2.50	339,400,000
2032	1.41	284,300,000	2.53	357,700,000
2033	1.40	294,600,000	2.55	374,100,000
2034	1.37	302,200,000	2.60	391,700,000

Notes:

(1) Results are expressed as a probability distribution. Amounts shown in table are median values within percentile categories. Actual rates for FY 2014-15, FY 2015-16, and FY 2016-17 are found in the table entitled "FPDR Fund—Certified Levies Compared with Maximum Levies Authorized."

Source: Milliman, Inc., Levy Adequacy Analysis, June 30, 2014.

The current analysis extends through FY 2033-34 and encompasses all facts, decisions and conditions pertaining to the FPDR Plan known at the time the analysis was completed. Future actuarial measurements may differ significantly from the measurements presented herein due to factors such as changes in economic or demographic assumptions (including changes in Real Market Value); changes related to PERS, performance of investments, and changes in FPDR Plan benefit provisions or applicable law.

#### **OTHER POST-EMPLOYMENT RETIREMENT BENEFITS ("OPEB")**

The City's OPEB liability includes two separate plans. The City provides a contribution to the State of Oregon PERS cost-sharing multiple-employer defined benefit plan and an implicit rate subsidy for retiree Health Insurance Continuation premiums.

#### **PERS Program**

Retirees who receive pension benefits through the T1/T2 Pension Programs and are enrolled in certain PERS-administered health insurance programs may also receive a subsidy towards the payment of health insurance premiums. Under ORS 238.420, retirees may receive a subsidy for Medicare supplemental health insurance of up to \$60 per month towards the cost of their health insurance premiums under the RHIA program. RHIA's assets and liabilities are pooled on a system-wide basis. These assets and liabilities are not tracked or calculated on an employer basis. The City's allocated share of the RHIA program's assets and liabilities is based on the City's proportionate share of the program's pooled covered payroll. According to the 2014 City Report, the City's allocated share of the RHIA program's UAL was \$2,663,682 as of December 31, 2014, and according to the 2015 City Report, the City's allocated share of the RHIA program's UAL was \$1,700,252 as of December 31, 2015.

The City's current employer contribution rate to fund RHIA benefits during the 2015-2017 biennium for T1/T2 employees is 0.53 percent and for OPSRP general services and police and fire employees is 0.45 percent. According to the 2015 City Valuation, the rate to fund RHIA benefits during the 2017-19 biennium for T1/T2 employees is 0.50 percent and for OPSRP general services and police and fire employees is 0.43 percent. These employer contribution rates to fund RHIA are not reflected in the rates described in Table D-7 above.

### **Health Insurance Continuation Option**

Distinct from the PERS program, Oregon municipalities, including the City, are required to allow retirees and their dependents to continue to receive health insurance by paying the premiums themselves at a rate that is blended with the rate for current employees until retirees and spouses are eligible for federal Medicare coverage and until children reach the age of 18 (the "Health Insurance Continuation Option"). GASB 45 refers to this as an implicit subsidy and therefore requires the corresponding liability to be determined and reported.

The OPEB liability associated with the Health Insurance Continuation Option is an actuarially-determined amount calculated in accordance with the parameters of GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. The valuation is prepared using the Entry Age Normal actuarial cost method and amortized over an open period of 30 years using the level percentage of projected pay. Other assumptions include a 3.5 percent investment rate of return, and annual healthcare cost trend rates of two to 8.5 percent for health insurance, 4.2 percent to 4.5 percent for dental insurance, and three percent for vision. The City's unfunded actuarial accrued liability for OPEB is solely attributable to the Health Insurance Continuation Option and at the valuation date of July 1, 2015 (the date of the most recent actuarial valuation), is estimated to be \$79,200,156. The unfunded actuarial accrued liability as a percentage of covered payroll is 30 percent. Actuarial valuations for the Health Insurance Continuation Option are undertaken every two years. A new valuation study will be undertaken for reporting the OPEB liability as of July 1, 2017.

The City's annual OPEB cost is calculated based on the actuarially-determined ARC, which represents a level of funding that, if paid on an ongoing basis, is projected to cover normal costs each year and amortize any unfunded liability over a period of 30 years. For FY 2015-16, the amount to be recognized as the annual employer OPEB cost was \$5,973,053. For fiscal year ended June 30, 2016, the City benefits paid on behalf of retirees exceeded the premiums they paid by \$1,058,108. The City elected to not pre-fund the FY 2015-16 annual OPEB cost. The amount unfunded in FY 2015-16 is \$43,102,7746, which is the OPEB obligation from the beginning of the fiscal year, plus the ARC for FY 2015-16 along with interest on the net OPEB obligation and adjustments, less payments made in relation to the FY 2015-16 net OPEB obligation. The City expects to use a pay-as-you-go approach to fund its actuarial accrued liability and OPEB obligation, but will monitor its OPEB liability and assess whether a different approach is needed in future years.



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**APPENDIX E**

**CITY ECONOMIC CHARACTERISTICS**

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## **CITY ECONOMIC CHARACTERISTICS**

The City of Portland, with an estimated population of 613,355 as of July 1, 2015, comprises an area of approximately 145 square miles in northwestern Oregon. Located astride the Willamette River at its confluence with the Columbia River, the City is the center of commerce, industry, transportation, finance and services for a metropolitan area with an estimated population of approximately 2.36 million people as of July 1, 2015. The City is the county seat of Multnomah County and is the largest city in Oregon and the second largest city in the Pacific Northwest.

### **PORTLAND-VANCOUVER-BEAVERTON METROPOLITAN STATISTICAL AREA**

The Portland-Vancouver-Hillsboro Metropolitan Statistical Area (the “MSA”) consists of Multnomah, Clackamas, Washington, Yamhill, and Columbia counties in Oregon, and Clark and Skamania counties in Washington. Metropolitan statistical areas are based on commuting patterns within a metropolitan area, and are used primarily for labor, employment and unemployment statistics.

Multnomah County encompasses the cities of Portland, Gresham, Troutdale, Fairview and Wood Village. Washington County contains Beaverton, Hillsboro, Tigard, and Tualatin. Clackamas County includes Milwaukie, Oregon City, Lake Oswego, West Linn and Happy Valley. The cities of St. Helens and Scappoose are located in Columbia County. Yamhill County includes McMinnville and Newberg. Clark County contains Vancouver and Camas, Skamania County includes Stevenson, Carson and Skamania.

## POPULATION

The population for the City has increased steadily over the past decade, as shown in the table below.

**Table E-1**  
**CITY OF PORTLAND, OREGON**  
**Population Estimate for the Last Ten Years**

<b>As of July 1</b>	<b>State of Oregon</b>	<b>City of Portland</b>	<b>MSA <sup>(1)</sup></b>	<b>Multnomah County</b>	<b>Washington County</b>	<b>Clackamas County</b>
2006	3,690,505	562,690	2,121,910	701,545	500,585	367,040
2007	3,745,455	568,380	2,159,720	710,025	511,075	372,270
2008	3,791,075	575,930	2,191,784	717,880	519,925	376,660
2009	3,823,465	582,130	2,216,785	724,680	527,140	379,845
2010	3,837,300	583,775	2,230,578	736,785	531,070	376,780
2011	3,857,625	585,845	2,245,400	741,925	536,370	378,480
2012	3,883,735	587,865	2,265,725	748,445	542,845	381,680
2013	3,919,020	592,120	2,291,650	756,530	550,990	386,080
2014	3,962,710	601,510	2,324,535	765,775	560,465	391,525
2015	4,013,845	613,355	2,364,954	777,490	570,510	397,385
2006-2015 Compounded Annual Rate of Change	0.9%	1.0%	1.2%	1.1%	1.5%	0.9%
2011-2015 Compounded Annual Rate of Change	1.0%	1.2%	1.3%	1.2%	1.6%	1.2%

Note: The federal Census figures, as of April 1 of the stated year, are as follows:

	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>
State of Oregon	2,633,156	2,842,321	3,421,399	3,831,074
Multnomah County	562,647	583,887	660,486	735,334
City of Portland	368,139	438,802	529,121	583,776
Washington County	245,860	311,554	445,342	529,710
Clackamas County	241,911	278,850	338,391	375,992

Notes:

(1) Portland State University Population Research Center defines the Portland-Vancouver-Beaverton Metropolitan Statistical Area as Multnomah, Washington, Clackamas, Columbia and Yamhill counties in Oregon and Clark and Skamania Counties in Washington.

Source: Washington State Office of Financial Management; Portland State University, Center for Population Research. Under Oregon State law, the State Board of Higher Education must estimate annually the population of Oregon cities and counties so that shared revenues may be properly apportioned. The Center for Population Research and Census at Portland State University performs this statutory duty. Under Washington State law, the Office of Financial Management must annually estimate the population of Washington cities and towns.

## INCOME

Table E-2 below shows personal income and per capita income for the MSA compared to similar data for the State and nation.

**Table E-2**  
**CITY OF PORTLAND, OREGON**  
**Total Personal Income and Per Capita Income**  
**MSA, Oregon, and the United States**

<b>Year</b>	<b>Total Personal Income MSA</b>	<b>Per Capita Income</b>		
	(millions)	<b>MSA</b>	<b>Oregon</b>	<b>USA</b>
2005	74,860	36,211	32,434	35,904
2006	81,122	38,571	34,546	38,144
2007	85,542	40,014	35,648	39,821
2008	89,875	41,362	36,750	41,082
2009	86,819	39,343	35,390	39,376
2010	88,688	39,733	35,791	40,277
2011	94,578	41,845	37,512	42,453
2012	100,470	43,898	39,083	44,266
2013	101,893	44,019	39,426	44,438
2014	107,536	45,794	41,220	46,049
2005-2014 Compounded Annual Rate of Change	4.1%	2.6%	2.7%	2.8%

Source: U.S. Department of Commerce, Bureau of Economic Analysis, as of March 10, 2016.

## LABOR FORCE AND UNEMPLOYMENT

Table E-3 below shows the annual average civilian labor force, employment level and unemployment level data that is available for the MSA for the period 2006 through 2015. For August 2016, the seasonally-adjusted unemployment rate for the MSA was 5.3 percent (5.3 percent not seasonally-adjusted) with a resident civilian labor force of 1,292,212 (not seasonally-adjusted). Table E-4 below shows the seasonally-unadjusted, average annual unemployment rates for the MSA, the State and the United States for the period 2006 through 2015.

**Table E-3**  
**CITY OF PORTLAND, OREGON**  
**MSA Labor Force and Unemployment Rates<sup>(1)</sup>**

<b>Year</b>	<b>Resident Civilian Labor Force</b>	<b>Unemployment</b>		<b>Total Employment</b>
		<b>Number</b>	<b>Percent of Labor Force</b>	
2006	1,119,097	57,219	5.1%	1,061,878
2007	1,144,909	56,925	5.0	1,087,984
2008	1,170,355	71,136	6.1	1,099,219
2009	1,184,164	128,971	10.9	1,055,193
2010	1,207,840	123,713	10.2	1,084,127
2011	1,214,756	108,919	9.0	1,105,837
2012	1,199,266	95,678	8.0	1,103,588
2013	1,180,049	84,116	7.1	1,095,933
2014	1,200,615	73,916	6.2	1,126,699
2015	1,224,063	64,602	5.3	1,159,461

Notes:

(1) Includes non-agricultural wage and salary, self-employed, unpaid family workers, domestics, agricultural workers and labor disputants. Not seasonally adjusted.

Source: Oregon Employment Department as of June 2, 2016.

**Table E-4**  
**CITY OF PORTLAND, OREGON**  
**Average Annual Unemployment**  
**MSA, Oregon, and the United States**  
**(Not Seasonally Adjusted)**

<b>Year</b>	<b>MSA</b>	<b>State of Oregon</b>	<b>USA</b>
2006	5.1%	5.3%	4.6%
2007	5.0	5.2	4.6
2008	6.1	6.5	5.8
2009	10.9	11.3	9.3
2010	10.2	10.6	9.6
2011	9.0	9.5	8.9
2012	8.0	8.8	8.1
2013	7.1	7.9	7.4
2014	6.2	6.8	6.2
2015	5.3	5.7	5.3

Source: Oregon Employment Department as of June 2, 2016.

## EMPLOYMENT BY INDUSTRY

Non-manufacturing employment (including government) accounts for about 89 percent of non-farm employment in the Portland area. The Portland metropolitan area's manufacturing employment, accounting for the remaining 11 percent of area employment, is largely based in the metals and computer and electronic equipment sectors.

**Table E-5**  
**CITY OF PORTLAND, OREGON**  
**Portland-Vancouver-Hillsboro, OR-WA MSA**  
**Non-Farm Wage and Salary Employment <sup>(1)</sup>(000)**

<b>Industry</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Total nonfarm employment	<b>998,500</b>	<b>1,020,100</b>	<b>1,044,500</b>	<b>1,076,000</b>	<b>1,111,600</b>
Total private	<b>852,800</b>	<b>875,300</b>	<b>900,300</b>	<b>929,500</b>	<b>961,700</b>
Mining and logging	1,100	1,000	1,100	1,200	1,300
Construction	47,100	49,000	52,200	55,600	56,100
Manufacturing	111,100	114,200	115,600	118,100	121,900
Durable goods	83,400	86,100	86,700	88,100	90,900
Wood product manufacturing	3,300	3,400	3,600	3,700	3,800
Primary metal manufacturing	5,700	6,100	6,400	6,400	6,400
Fabricated metal product manufacturing	11,900	12,400	12,600	12,400	12,700
Machinery manufacturing	7,700	8,000	8,300	8,700	8,900
Computer and electronic product manufacturing	34,700	35,400	35,300	35,400	36,700
Transportation equipment manufacturing	6,800	7,300	7,000	7,400	7,800
Nondurable goods	27,700	28,200	28,900	29,900	30,900
Food manufacturing	9,700	10,200	11,000	11,800	12,200
Paper manufacturing	3,400	3,300	3,300	3,100	3,100
Trade, transportation, and utilities	187,600	190,800	195,700	202,200	207,400
Wholesale Trade	51,300	52,700	53,800	54,200	55,400
Retail trade	102,400	104,300	107,700	111,500	114,900
Utilities	2,200	2,200	2,300	2,300	2,200
Transportation and warehousing	31,600	31,600	31,900	33,200	34,900
Information	22,700	23,200	23,300	23,500	24,500
Financial activities	61,700	62,300	63,400	64,100	66,200
Professional and business services	142,300	148,500	155,800	164,000	170,900
Educational and health services	147,000	149,400	152,200	155,900	161,100
Leisure and hospitality	96,800	100,200	104,200	107,900	113,300
Other services	35,400	36,600	36,900	38,100	39,100
Government	<b>145,700</b>	<b>144,800</b>	<b>144,100</b>	<b>146,500</b>	<b>149,900</b>

Notes:

(1) Not seasonally adjusted.

Source: State of Oregon, Employment Department QualityInfo.org as of June 2, 2016.

**Table E-6**  
**CITY OF PORTLAND, OREGON**  
**Major Employers in the MSA**

<b>Employer</b>	<b>Product or Service</b>	<b>Estimated Metro Area Employment</b>
<b>Private Employers</b>		
Intel Corporation	Computer and electronic products	18,600
Providence Health System	Health care & health insurance	16,139
Kaiser Permanente Northwest	Health care	11,898
Fred Meyer Stores	Grocery & retail variety chain	10,813
Legacy Health System	Health care	8,700
Nike Inc.	Sports shoes and apparel	8,500
Wells Fargo	Bank	4,527
Southwest Washington Medical Center	Health care	4,446
U.S. Bank	Bank & holding company	3,757
Daimler Trucks North America	Heavy duty trucks	3,000
New Seasons Market	Grocery	3,000
Portland General Electric	Utility	2,280
The Standard	Insurance	2,175
<b>Public Employers</b>		
Oregon Health and Science University	Health care & education	14,963
Portland Public Schools	Education	6,135
Multnomah County	Local government	5,995
City of Portland	Local government	5,481
Beaverton School District	Education	4,637
Portland Community College	Education	3,906
U.S. Postal Service	Federal government	3,533
Portland State University	Education	3,418
U.S. Dept. of Veterans Affairs	Federal government	3,378
Vancouver School District	Education	3,300
Evergreen School District	Education	3,292
TriMet	Mass transit	2,645
Hillsboro School District	Education	2,539
Clackamas County	Local government	2,181

Source: Portland Business Journal, December 25, 2015.

## **REAL ESTATE**

### **Industrial**

A diverse mix of industrial properties are located throughout the Portland metropolitan area for all types of industrial use, including more than 190 million square feet of industrial and business park space. On the eastside, the Columbia Corridor is the largest industrial area in Oregon, containing approximately 22,600 acres or 28 square miles along an 18-mile stretch of land that runs along the southern shore of the Columbia River. The Columbia Corridor includes the Rivergate Industrial District, marine terminals, and Portland International Airport (“PDX”). The Rivergate Industrial Park is a 2,800-acre area owned by The Port of Portland (the “Port”) in North Portland. In addition to Rivergate’s access to the Columbia River and PDX, the area qualifies local businesses for participation in the Enterprise Zone and related tax incentives.

Just west of the City, the Sunset Corridor has emerged as the center for Oregon’s high technology industry, including Intel’s approximately 18,000-employee campuses. This area parallels a major east/west highway (U.S. Highway 26) in the western metropolitan area. Another large submarket for industrial and flex space is the Interstate 5 (“I-5”) Corridor, which extends from southwest Portland to the City of Wilsonville along I-5.

Portland’s economic expansion continued in the second quarter of 2016 and industrial sector vacancy rates declined, driven by healthy demand combined with a supply constrained market, according to Cushman & Wakefield in their publication *Marketbeat—Industrial Snapshot, Portland, OR, Q2 2016*. Cushman & Wakefield report overall vacancy rates for the second quarter 2016 of 4.4 percent, down from the second quarter 2015 rate of 5.3 percent. Cushman & Wakefield note that rental rates are increasing in all Portland submarkets. Overall net absorption was approximately 1.4 million square feet through the second quarter of 2016. A total of 2.76 million square feet of new construction is reported to be underway.

### **Office**

The Portland metropolitan area office market is home to diverse architectural styles ranging from Class-A office space to unique historical buildings in downtown Portland.

The strength of Portland’s economy is also having a positive effect on its office market, as reported in *Marketbeat—Office Snapshot, Portland, OR, Q2 2016* prepared by Cushman & Wakefield. The second quarter overall vacancy rate for the Portland region was 10.8 percent, which is an improvement from the second quarter 2015 vacancy rate of 10.9 percent. Cushman & Wakefield report that, despite an increase in inventory, vacancy rates in the central business district have declined with a current rate of 9.6 percent compared to 9.7% for the second quarter of 2015. Overall absorption in the central business district totaled 254,089 square feet for the second quarter of 2016. The suburban market was weaker, with a second quarter 2015 overall vacancy rate of 12.0 percent. Class A office space in the downtown continues to fare better than the rest of the market, with asking rents averaging \$32.03 per square foot compared to \$25.30 per square foot for the Class A space in the Portland region’s suburban market.

### **Housing**

The year-to-date median selling price of a home in the Portland metropolitan area through July 2016 was \$355,000, up 11.6 percent from the July 2015 year-to-date price of \$318,000, according to the Realtors Metropolitan Area Multiple Listing Service (“RMLS”). Through July 2016, homes in the Portland metropolitan area were on the market an average of 32 days during the year. Portland metropolitan area closed sales year-to-date were down 19.6 percent from the same period in 2015.

The table below compares the median home sale price for the second quarter of 2015 and 2016 in the Portland metropolitan region and with the nation.

**Table E-7**  
**Median Home Sale Price**  
**(U.S. and Portland Metropolitan Area)**

<b>Region</b>	<b>2nd Quarter 2015</b>	<b>2nd Quarter 2016</b>	<b>Percent Change</b>
U.S.	\$229,400	\$240,700	4.9%
Portland Metro. Area	314,800	356,700	13.3%

Source: National Association of Realtors and RMLS.

The market for condominiums is shown in the table below.

**Table E-8**  
**CITY OF PORTLAND, OREGON**  
**Median Condo/Coop Sale Price**  
**(U.S. and Portland Metropolitan Area)**

<b>Region</b>	<b>2nd Quarter 2015</b>	<b>2nd Quarter 2016</b>	<b>Percent Change</b>
U.S.	\$216,700	\$227,200	4.8%
Portland Metro. Area	198,600	233,100	17.4%

Source: National Association of Realtors and RMLS.

Residential building permits are an indicator of growth in a region. The number and value of new single-family and multi-family residential building permits for Portland are shown below.

**Table E-9**  
**CITY OF PORTLAND, OREGON**  
**New Single-family and Multi-family**  
**Residential Construction Permits**

<b>Year</b>	<b>New Single Family</b>		<b>New Multi-Family</b>	
	<b>No. of Permits</b>	<b>Value</b>	<b>No. of Permits</b>	<b>Value</b>
2006	1,256	\$232,917,661	164	\$241,125,419
2007	1,205	236,732,683	179	346,708,925
2008	648	126,171,068	73	410,957,333
2009	427	86,645,801	15	44,978,728
2010	435	95,809,473	30	86,511,573
2011	451	101,302,272	44	92,746,314
2012	644	148,883,319	64	166,493,454
2013	763	181,106,655	105	286,152,929
2014	792	204,151,344	120	569,177,585
2015	877	233,108,737	147	456,148,311

Source: U.S. Census Bureau as of May 16, 2016.



## TRANSPORTATION AND DISTRIBUTION

Location and topography have established the City as a leading warehousing and distribution center for the Pacific Northwest. The City's location at the head of deep-water navigation on the Columbia River system gives it geographic and, therefore, economic advantages for the shipment of freight.

The Columbia River ship channel extends from the Portland Harbor to the Pacific Ocean 110 miles downstream. The Columbia River provides the only water route through the Cascade Mountains to the agricultural regions of eastern Oregon, Washington, and northern Idaho. This region has been opened to slack-water barge navigation by means of locks installed in a series of federal hydroelectric projects on the lower Columbia River and its largest tributary, the Snake River. There are two primary barge lines providing service between the upriver ports and Portland. In addition, the Columbia River Gorge forms a corridor through the Cascade mountains which, because it is level, provides an economical rail and highway route between the City and the region east of the Cascade mountains.

The Port is a port district encompassing Multnomah, Clackamas and Washington counties. The Port owns and maintains four marine terminals, four airports, and seven business parks. In tonnage of total waterborne commerce, the Port is currently ranked as the third largest volume port on the West Coast. The Port is the largest wheat export port in the United States and is the largest volume auto handling port and mineral bulks port on the West Coast. Leading exports include wheat, soda ash, potash and hay. Leading imports include automobiles, petroleum products, steel and limestone.

In 2015, 352 ocean-going vessels made calls at Port facilities. Total maritime tonnage in 2015 decreased by 35 percent to 8.4 million short tons in 2015 compared to 12.9 million in 2014. Hanjin Shipping withdrew direct call service from the Port effective March 9, 2015. It was the largest container carrier offering service via Terminal 6, Oregon's only deep draft international container terminal. In March 2015, Hapag-Lloyd, the second largest carrier to Terminal 6, also discontinued service to Portland.

PDX handled approximately 16.8 million passengers in 2015, with more than 400 flights daily. This includes nonstop service on international flights to Amsterdam, Netherlands; Tokyo, Japan; Frankfurt, Germany, Reykjavik Iceland, and several destinations in Mexico and Canada. In 2015, 228,428 short tons of cargo and 9,377 short tons of mail were handled by PDX. Portland is also served by three publicly operated general aviation airports located in the suburban areas.

Portland is also in a strategic position to serve the Willamette Valley, which extends approximately 145 miles south from the City and is one of the nation's most diversified and productive agricultural regions and food processing centers.

Two major railroads—the Burlington Northern Santa Fe and Union Pacific—plus the Amtrak passenger train system serve the Portland metropolitan area.

Transportation is facilitated by a highway system that includes I-5, the primary north-south highway artery of the West Coast, and two by-pass routes, Interstate 205 and Interstate 405, within and around the City. The primary east-west highway system is Interstate 84, which begins at Portland and heads east along the Columbia River to Idaho and beyond. The Portland metropolitan area is also served by U.S. highways 26 and 30, Oregon highways 43, 213, 217, 224, 99E, 99W, the Tualatin Valley Highway, the historic Columbia River Highway, nine bridges across the Willamette River and two bridges across the Columbia River.

The Tri-County Metropolitan Transportation District of Oregon ("TriMet"), the regional public transit agency, provides rail and bus service throughout the Portland metropolitan area. During TriMet's fiscal year, from July 2014 through June 2015, passengers boarded a TriMet fixed-route bus or train approximately 101.75 million times. TriMet's light rail system ("MAX") connects downtown Portland with the cities of Gresham, Beaverton and Hillsboro, as well as North/Northeast Portland, Clackamas Town Center, and PDX. TriMet also provides commuter rail service between Beaverton and Wilsonville.

The Portland Streetcar connects South Waterfront area along the Willamette River, the Pearl District and Northwest Portland, the Lloyd District in northeast Portland and the Central Eastside district. The Portland Streetcar is owned and operated by the City, and has entered into contracts with TriMet for train operators and mechanics.

## **TOURISM, RECREATION AND CULTURAL ATTRACTIONS**

Portland is Oregon's largest city and the center of business and transportation routes in the state, and therefore accommodates a large share of the state's tourist and business visitors. Portland is a destination for many tourists who are drawn to its diverse cultural and recreational facilities. These include the Oregon Symphony and associated musical organizations, Portland Center for the Performing Arts, Oregon Ballet, Portland Opera, Portland Center Stage, Portland Art Museum, Oregon Historical Society Museum, Children's Museum, Oregon Museum of Science and Industry, Forest Discovery Center, Japanese Gardens, International Rose Test Gardens, the Lan Su Chinese Garden and the Oregon Zoo. The metropolitan area includes more than 40 other local theater and performance art companies and ten additional gardens of special interest. Portland is the home of Forest Park, the largest urban park in the United States with a total of more than 5,000 acres. A prime tourist attraction for the City, known as the City of Roses, is the three-week long Portland Rose Festival held each June since 1907. More than two million participants enjoy the festival annually.

A 90-minute drive from Portland in almost any direction provides access to numerous recreational, educational, and leisure activities. The Pacific Ocean and the Oregon Coast to the west, the Columbia Gorge and Mt. Hood, Mt. St. Helens and Mt. Adams in the Cascade Range to the east, and the Willamette Valley to the south offer opportunities for hiking, camping, swimming, fishing, sailboarding, skiing, wildlife watching, and numerous other outdoor activities.

The National Basketball Association ("NBA") Portland Trail Blazers play at the Rose Garden Arena complex (which includes the Veteran's Memorial Coliseum), as do the major-junior Western Hockey League ("WHL") Portland Winterhawks. Providence Park is the home of the Major League Soccer ("MLS") Portland Timbers and National Women's Soccer League ("NWSL") Portland Thorns FC.

## **HIGHER EDUCATION**

Within the Portland metropolitan area are several post-secondary educational systems. Portland State University ("PSU"), the largest university in the Oregon University System, is located on a campus encompassing an area of over 28 blocks adjacent to the downtown business and commercial district of Portland. PSU offers over 200 undergraduate, masters, and doctoral programs. Enrollment for the Fall 2015 term was approximately 28,000 students. PSU is noted for the development of programs specifically designed to meet the needs of the urban center.

Oregon State University and the University of Oregon, also within the Oregon University System, have field offices and extension activities in the Portland metropolitan area.

OHSU's Marquam Hill campus sits on more than 100 acres overlooking downtown Portland. OHSU includes the schools of dentistry, medicine, nursing, and science and engineering. OHSU also includes Doernbecher Children's Hospital and OHSU Hospital, as well as primary care and specialty clinics, research institutes and centers, interdisciplinary centers, and community service programs. Enrollment at the Portland campus for Fall 2015 was approximately 2,125 medical, dental, nursing, science, and allied health students.

Independent colleges in the Portland metropolitan area include Lewis & Clark College, University of Portland, Reed College, Linfield College-Portland Campus, ITT Technical Institute, and Marylhurst University; and several smaller church-affiliated schools, including Warner Pacific College, Concordia University, George Fox University, and Cascade College. Several community colleges serve the Portland metropolitan area including Portland Community College, Mt. Hood Community College, and Clackamas Community College.

## **UTILITIES**

### **Electric Power and Natural Gas**

Electricity is provided by Portland General Electric Company (“PGE”) and Pacific Power. Low-cost hydroelectric power provides a substantial portion of the area’s energy requirements. NW Natural distributes natural gas.

### **Communications**

Telephone services are provided by CenturyLink and, in some areas, Frontier. The Portland metropolitan area is also served by three cable service providers, primarily Comcast within the Portland city limits, and Frontier and Reliance Connects in other parts of the region.

### **Water, Sewer, and Wastewater**

The City operates the water supply system that delivers drinking water to residents of Portland. Approximately 970,000 people, almost one-quarter of the state’s population, are served by the City’s water system on a wholesale and retail basis within its 225 square mile service area. The primary water source is the Bull Run Watershed, located in the foothills of the Cascades west of Mt. Hood. The City also uses groundwater as a supplemental water supply.

The City also owns, operates, and maintains sanitary and storm water collection, transportation, and treatment systems within its boundaries. The City provides sanitary sewer service to approximately 613,000 people, numerous commercial and industrial facilities, and several wholesale contract customers located adjacent to the City.



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**APPENDIX F**  
**LEGAL OPINION**

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*On the date of issuance of the Bonds, Hawkins Delafield & Wood LLP, Bond Counsel, proposes to issue its approving opinion in substantially the following form:*

December 15, 2016

City of Portland  
1120 SW Fifth Avenue, Room 1250  
Portland, Oregon 97204

Subject: \$168,525,000 City of Portland, Oregon,  
First Lien Water System Revenue and Refunding Bonds, 2016 Series A

Ladies and Gentlemen:

We have acted as bond counsel in connection with the issuance by the City of Portland, Oregon (the “City”) of its First Lien Water System Revenue and Refunding Bonds, 2016 Series A (the “2016 Series A Bonds”), which are dated as of their date of delivery and are in the aggregate principal amount of \$168,525,000. The 2016 Series A Bonds are issued pursuant to the relevant provisions of Oregon Revised Statutes Chapter 287, City Ordinance No. 188045 adopted by the City Council on October 19, 2016 (the “Ordinance”), a Master First Lien Water System Revenue Bond Declaration and a 2016 Series A Supplemental First Lien Water System Revenue Bond Declaration each dated as of the date of delivery of the 2016 Series A Bonds (collectively, the “Declarations”). Capitalized terms used but not defined in this opinion have the meanings defined for such terms in the Declarations.

We have examined the law and such certified proceedings and other documents as we deem necessary to render this opinion.

We have not been engaged or undertaken to review the accuracy, completeness or sufficiency of the official statement or other offering materials which have been or may be supplied to the purchasers of the 2016 Series A Bonds, and we express no opinion relating thereto, excepting only the matters set forth as our opinion in the official statement.

Regarding questions of fact material to our opinion, we have relied on representations of the City in the Ordinances and in the Declarations and in the certified proceedings and on other certifications of public officials and others furnished to us without undertaking to verify the same by independent investigation.

Based on the foregoing, we are of the opinion that, under existing law:

1. The 2016 Series A Bonds have been legally authorized, sold and issued under and pursuant to the Constitution and Statutes of the State of Oregon, the Charter of the City, the Ordinance and the Declarations. The 2016 Series A Bonds constitute valid and legally binding obligations of the City that are enforceable in accordance with their terms.
2. The 2016 Series A Bonds are special obligations of the City that are payable solely from the Net Revenues of the City’s Water System as described and provided in the Declarations.
3. Under existing statutes and court decisions and assuming continuing compliance with certain tax covenants described below, (i) interest on the 2016 Series A Bonds is excluded from gross income for federal income tax purposes pursuant to Section 103 of the Internal Revenue Code of 1986, as amended (the “Code”), and (ii) interest on the 2016 Series A Bonds is not treated as a preference item in calculating the alternative minimum tax imposed on individuals and corporations under the Code; such interest, however, is included in the adjusted current earnings of certain corporations for purposes of calculating the alternative minimum tax imposed on such corporations. In rendering our opinion, we have relied on certain representations, certifications of fact, and statements of reasonable expectations made by the City and others in connection with the 2016 Series A Bonds, and we have assumed compliance by the City and others with certain ongoing covenants to comply with applicable requirements of the Code to assure the exclusion of interest on the 2016 Series A Bonds from gross

income under Section 103 of the Code.

The Code establishes certain requirements that must be met subsequent to the issuance and delivery of the 2016 Series A Bonds in order that, for federal income tax purposes, interest on the 2016 Series A Bonds not be included in gross income pursuant to Section 103 of the Code. These requirements include, but are not limited to, requirements relating to the use and expenditure of proceeds of the 2016 Series A Bonds, restrictions on the investment of proceeds of the 2016 Series A Bonds prior to expenditure and the requirement that certain earnings be rebated to the federal government. Noncompliance with such requirements may cause interest on the 2016 Series A Bonds to become subject to federal income taxation retroactive to their date of issue, irrespective of the date on which such noncompliance occurs or is ascertained.

On the date of delivery of the 2016 Series A Bonds, the City will execute a Tax Certificate (the "Tax Certificate") containing provisions and procedures pursuant to which such requirements can be satisfied. In executing the Tax Certificate, the City covenants that it will comply with the provisions and procedures set forth therein and that it will do and perform all acts and things required by the Code to assure that interest paid on the 2016 Series A Bonds will, for federal income tax purposes, be excluded from gross income.

In rendering the opinion in paragraph 3 hereof, we have relied upon and assumed (i) the material accuracy of the representations, statements of intention and reasonable expectation, and certifications of fact contained in the Tax Certificate with respect to matters affecting the status of interest paid on the 2016 Series A Bonds, and (ii) compliance by the City with the procedures and covenants set forth in the Tax Certificate as to such tax matters.

4. Interest on the 2016 Series A Bonds is exempt from Oregon personal income tax.

Except as stated in paragraphs 3 and 4 above, we express no opinion as to any other federal, state or local tax consequences arising with respect to the 2016 Series A Bonds or the ownership or disposition thereof. Furthermore, we express no opinion herein as to the effect of any action hereafter taken or not taken in reliance upon an opinion of counsel other than ourselves on the exclusion from gross income for federal income tax purposes of interest on the 2016 Series A Bonds.

The portion of this opinion that is set forth in paragraph 1, above, is qualified only to the extent that enforceability of the 2016 Series A Bonds may be limited by or rendered ineffective by (i) bankruptcy, insolvency, fraudulent conveyance, reorganization, moratorium and other laws affecting creditors' rights generally; (ii) the application of equitable principles and the exercise of judicial discretion in appropriate cases; (iii) common law and statutes affecting the enforceability of contractual obligations generally; and (iv) principles of public policy concerning, affecting or limiting the enforcement of rights or remedies against governmental entities such as the City.

This opinion is given as of the date hereof and is based on existing law, and we assume no obligation to update, revise, or supplement this opinion to reflect any action hereafter taken or not taken, or any facts or circumstances that may hereafter come to our attention or any changes in law or interpretations thereof that may hereafter arise or occur, or for any other reason.

This opinion is limited to matters of Oregon law and applicable federal law, and we assume no responsibility as to the applicability of laws of other jurisdictions.

This opinion is provided to you as a legal opinion only, and not as a guaranty or warranty of the matters discussed herein. No opinions may be inferred or implied beyond the matters expressly stated herein. No qualification, limitation or exception contained herein shall be construed in any way to limit the scope of the other qualifications, limitations and exceptions. For purposes of this opinion, the terms "law" and "laws" do not include unpublished judicial decisions, and we disclaim the effect of any such decision on this opinion.



We have served as bond counsel only to the City in connection with the 2016 Series A Bonds and have not represented any other party in connection with the 2016 Series A Bonds. This opinion is given solely for the benefit of the City in connection with the 2016 Series A Bonds and may not be relied on in any manner or for any purpose by any person or entity other than the City, and any person to whom we may send a formal reliance letter, indicating that the recipient is entitled to rely on this opinion.

Very truly yours,



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**APPENDIX G**  
**CONTINUING DISCLOSURE CERTIFICATE**

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## CONTINUING DISCLOSURE CERTIFICATE

**\$168,525,000**

**City of Portland, Oregon**

### **First Lien Water System Revenue and Refunding Bonds 2016 Series A**

This Continuing Disclosure Certificate (the “Certificate”) is executed and delivered by the City of Portland, Oregon (the “City”) in connection with the issuance of the City’s First Lien Water System Revenue and Refunding Bonds, 2016 Series A (the “Bonds”).

Section 1. Purpose of Certificate. This Certificate is being executed and delivered by the City for the benefit of the Bondowners and to assist the underwriter(s) of the Bonds in complying with paragraph (b)(5) of the Securities and Exchange Commission Rule 15c2-12 (17 C.F.R. § 240.15c2-12) as amended, (the “Rule”). This Certificate constitutes the City’s written undertaking for the benefit of the Bondowners as required by Section (b)(5) of the Rule.

Section 2. Definitions. Unless the context otherwise requires, the terms defined in this Section shall, for purposes of this Certificate, have the meanings herein specified.

“Beneficial Owner” means any person who has the power, directly or indirectly, to vote or consent with respect to, or to dispose of ownership of, any Bonds, including persons holding Bonds through nominees or depositories.

“Bondowners” means the registered owners of the Bonds, as shown on the bond register maintained by the Paying Agent for the Bonds, and any Beneficial Owners.

“Commission” means the Securities and Exchange Commission.

“EMMA” means the Electronic Municipal Market Access system for municipal securities disclosure established by the MSRB and accessible at <http://emma.msrb.org/>.

“MSRB” means the Municipal Securities Rulemaking Board or any successor to its functions.

“Official Statement” means the final official statement for the Bonds dated December 6, 2016.

“Rule” means the Commission’s Rule 15c2-12 under the Securities Exchange Act of 1934, as the same may be amended from time to time.

Section 3. Financial Information. The City agrees to provide or cause to be provided to the MSRB, the following annual financial information and operating data:

A. The City’s previous fiscal year annual financial statements prepared in accordance with the Oregon Local Budget Law (or any successor statute) and in accordance with generally accepted accounting principles so prescribed by the Governmental Accounting Standards Board (or its successors); and

B. To the extent not included in those annual financial statements, financial information and operating data generally of the type included in the body of the Official Statement under the headings "Water System Customers, Demand, Rates and Billing," "Water System Operating and Financial Information" and in Appendix D: "City Operating and Financial Information."

Section 4. Timing. The information described in Section 3 above shall be provided by the City for each of its fiscal years in which the Bonds are outstanding. The City shall provide that information not later than nine months after the end of each fiscal year, commencing no later than March 31, 2017, for the fiscal year ended June 30, 2016. The City's current fiscal year ends June 30. The City may adjust its fiscal year by providing written notice of the change of fiscal year to the MSRB. In lieu of providing such annual financial information and operating data, the City may cross-reference to other documents provided to the MSRB.

Section 5. Material Events. The City will provide or cause to be provided to the MSRB in a timely manner not in excess of ten business days after the occurrence of the event, notice of any of the following events with respect to the Bonds:

- (a) Principal and interest payment delinquencies;
- (b) Non-payment related defaults, if material;
- (c) Unscheduled draws on debt service reserves reflecting financial difficulties;
- (d) Unscheduled draws on credit enhancements reflecting financial difficulties;
- (e) Substitution of credit or liquidity providers or their failure to perform;
- (f) Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of the security, or other material events affecting the tax status of the security;
- (g) Modifications to the rights of security holders, if material;
- (h) Bond calls, if material, and tender offers;
- (i) Defeasances;
- (j) Release, substitution or sale of property securing repayment of the securities, if material;
- (k) Rating changes;
- (l) Bankruptcy, insolvency, receivership or similar event of the obligated person; (Note: For the purposes of the event identified in this paragraph (l), the event is considered to occur when any of the following occur: The appointment of a receiver, fiscal agent or similar officer for an obligated person in a proceeding under the United States

Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the obligated person, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the obligated person.);

(m) The consummation of a merger, consolidation, or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material;

(n) Appointment of a successor or additional trustee or the change of name of a trustee, if material.

The City may from time to time choose to provide notice of the occurrence of certain other events, in addition to those listed above, if, in the judgment of the City, such other event is material with respect to the Bonds, but the City does not undertake any commitment to provide such notice of any event except those events listed above.

Section 6. Failure to File Annual Financial Information. The City agrees to provide or cause to be provided, in a timely manner, to the MSRB, notice of a failure by the City to provide the annual financial information described in Section 3 above on or prior to the time set forth in Section 4.

Section 7. Termination. The City's obligation to provide notices of material events shall terminate upon the legal defeasance, prior redemption or payment in full of all of the Bonds. This Certificate, or any provision hereof, shall be null and void if the City (a) obtains an opinion of nationally recognized bond counsel to the effect that those portions of the Rule which require this Certificate, or any provision hereof, are invalid, have been repealed retroactively or otherwise do not apply to the Bonds; and (b) notifies the MSRB of such opinion and the termination of its obligations under this Certificate.

Section 8. Amendment. Notwithstanding any other provision of this Certificate, the City may amend this Certificate provided that the following conditions are satisfied:

A. If the amendment relates to the provisions of Section 3 or Section 5 of this Certificate, it may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of the City with respect to the Bonds, or the type of business conducted;

B. If this Certificate, as amended, would, in the opinion of nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

C. The amendment either (i) is approved by the Bondowners in the same manner as amendments to the Bond Declaration in effect at the time of the amendment or (ii) does not, in the opinion of nationally recognized bond counsel, materially impair the interests of the Bondowners.

In the event of any amendment of a provision of this Certificate, the City shall describe such amendment in its next annual filing pursuant to Section 3 of this Certificate, and shall include, as applicable, a narrative explanation of the reason for the amendment and its impact on the type (or in the case of a change of accounting principles, on the presentation) of financial information or operating data being presented by the City. In addition, if the amendment relates to the accounting principles to be followed in preparing financial statements, (i) notice of the amendment shall be given in the same manner as for a material event under Section 5 of this Certificate, and (ii) the annual filing pursuant to Section 3 of this Certificate for the first fiscal year that is affected by the change in accounting principles shall present a comparison (in narrative form and also, if feasible, in quantitative form) between the financial statements as prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

Section 9. Bondowner's Remedies Under This Certificate. The right of any Bondowner to enforce the provisions of this Certificate shall be limited to a right to obtain specific enforcement of the City's obligations hereunder, and any failure by the City to comply with the provisions of this undertaking shall not be an event of default with respect to the Bonds. Bondowners may take such actions as may be necessary and appropriate, including seeking mandamus or specific performance by court order, to cause the City to comply with its obligations under this Certificate. A default under this Certificate shall not be deemed a default or an event of default under the documents authorizing issuance of the Bonds, and no monetary damages shall arise or be payable hereunder, and the sole remedy under this Certificate in the event of any failure of the City to comply with this Certificate shall be an action to compel performance.

Section 10. Form of Information. All information required to be provided under this certificate will be provided in an electronic format as prescribed by the MSRB.

Section 11. Submitting Information Through EMMA. So long as the MSRB continues to approve the use of the Electronic Municipal Market Access ("EMMA") continuing disclosure service, any information required to be provided to the MSRB under this Certificate may be provided through EMMA. As of the date of this Certificate, the web portal for EMMA is [emma.msrb.org](http://emma.msrb.org).

Section 12. Dissemination Agent. The City may, from time to time, engage or appoint an agent to assist the City in disseminating information hereunder (the "Dissemination Agent"). The City may discharge any Dissemination Agent with or without appointing a successor Dissemination Agent.

Section 13. Choice of Law. This Certificate shall be governed by and construed in accordance with the laws of the State of Oregon, provided that to the extent this Certificate addresses matters of federal securities laws, including the Rule, this Certificate shall be construed in accordance with such federal securities laws and official interpretations thereof.



Dated as of the 15<sup>th</sup> day of December, 2016.

**City of Portland, Oregon**

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Debt Manager



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## **APPENDIX H**

### **BEO SYSTEM**

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## **BEO SYSTEM**

### **DTC LANGUAGE DESCRIBING BOOK-ENTRY-ONLY ISSUANCE**

(Prepared by DTC—bracketed material may be applicable only to certain issues)

1. The Depository Trust Company (“DTC”), New York, NY, will act as securities depository for the securities (the “Securities”). The Securities will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered Security certificate will be issued for [each issue of] the Securities, [each] in the aggregate principal amount of such issue, and will be deposited with DTC. [If, however, the aggregate principal amount of [any] issue exceeds \$500 million, one certificate will be issued with respect to each \$500 million of principal amount, and an additional certificate will be issued with respect to any remaining principal amount of such issue.]
2. DTC, the world’s largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC’s participants (“Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants”). DTC has a Standard & Poor’s rating of AA+. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).
3. Purchases of Securities under the DTC system must be made by or through Direct Participants, which will receive a credit for the Securities on DTC’s records. The ownership interest of each actual purchaser of each Security (“Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Securities are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in Securities, except in the event that use of the book-entry system for the Securities is discontinued.
4. To facilitate subsequent transfers, all Securities deposited by Direct Participants with DTC are registered in the name of DTC’s partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Securities with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Securities; DTC’s records reflect only the identity of the Direct Participants to whose accounts such Securities are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.
5. Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. [Beneficial Owners of Securities may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Securities, such as redemptions, tenders, defaults, and proposed amendments to the Security documents. For example, Beneficial Owners of Securities may wish to ascertain that the nominee holding the Securities for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of notices be provided directly to them.]
6. Redemption notices shall be sent to DTC. If less than all of the Securities within an issue are being redeemed, DTC’s practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

7. Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to Securities unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to Issuer as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts Securities are credited on the record date (identified in a listing attached to the Omnibus Proxy).
8. Redemption proceeds, distributions, and dividend payments on the Securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from Issuer or Agent, on payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, Agent, or Issuer, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions, and dividend payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of Issuer or Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.
9. A Beneficial Owner shall give notice to elect to have its Securities purchased or tendered, through its Participant, to [Tender/Remarketing] Agent, and shall effect delivery of such Securities by causing the Direct Participant to transfer the Participant's interest in the Securities, on DTC's records, to [Tender/Remarketing] Agent. The requirement for physical delivery of Securities in connection with an optional tender or a mandatory purchase will be deemed satisfied when the ownership rights in the Securities are transferred by Direct Participants on DTC's records and followed by a book-entry credit of tendered Securities to [Tender/Remarketing] Agent's DTC account.
10. DTC may discontinue providing its services as depository with respect to the Securities at any time by giving reasonable notice to Issuer or Agent. Under such circumstances, in the event that a successor depository is not obtained, Security certificates are required to be printed and delivered.
11. Issuer may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, Security certificates will be printed and delivered to DTC.
12. The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that Issuer believes to be reliable, but Issuer takes no responsibility for the accuracy thereof.



